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Industrial PC

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Introduction

Overview

Professional automation solutions place a wide range of different requirements on the industrial PCs used (vibration, cold, dust, heat, steam) year in, year out and round the clock. SIMATIC PCs are the ideal industry-standard PC platforms for this purpose.

SIMATIC PC offers

- High system availability
- High degree of investment protection
- Best industrial functionality

A broad range of designs are available for various applications:

SIMATIC Rack PC

Flexible, high-performance industrial PC for installation in 19" racks.

SIMATIC Box PC

Compact, rugged industrial PC for universal installation.

SIMATIC Panel PC

Rugged, high-performance industrial PC with brilliant display.

SIMATIC PCs can be individually configured and further customer requirements, such as design, hardware expansions, can be implemented on a project-specific basis.

For individual expansion of the system availability, expansion components that are matched to one another are available.

SIMATIC PC – the more industrial PC

Benefits

Ruggedness and industrial compatibility for 24-hour continuous use in an industrial environment

- Compact, space-saving enclosure (SIMATIC Box PC and SIMATIC Panel PC)
- Suitable for installing in space-saving control cabinets, only 500 mm deep (SIMATIC Rack PC)
- All-metal enclosure with a high degree of electromagnetic compatibility for use in industrial areas and in domestic, business and commercial environments and for a degree of protection up to IP65/NEMA 4
- The mounting position of the devices can be varied by means of wall, upright or control cabinet mounting (SIMATIC Box PC), rail mounting (SIMATIC Microbox PC 427B only) and horizontal or vertical mounting position in the19" cabinet with appropriate kit as an industrial tower PC (SIMATIC Rack PC).
- High resistance to shock/vibration thanks to special hard disk mountings, locked connectors, and card retainers
- Maintenance-free through fanless construction and use of SIMATIC CompactFlash Cards (SIMATIC Microbox PC 427B and SIMATIC Panel PC 477 embedded)
- Service-friendly, modular device design for replacement of defective components
- Integral industrial power supplies (according to NAMUR) for the safe power supply protected against system disturbances
- Attractive product design with dirt-repelling fronts and coated surfaces
- Dust protection thanks to a pressurized cooling concept, front-mounted fans and dust filters (SIMATIC Rack PC)

Reduction in standstill times thanks to high system availability

- Assured 24-hour operation as a result of high-quality parts and components (high MTBF, speed-controlled fans)
- Efficient self-diagnostics for avoidance of potential failures (front status LEDs, SIMATIC PC DiagMonitor diagnostics software for condition monitoring, local and remote)
- Minimum downtimes thanks to mirror disk systems and preventive data backup with SIMATIC PC Image Creator and SIMATIC PC BIOS Manager
- Restore CD/DVD for restoration of the delivery state
- Installed and activated Microsoft operating systems for time savings during installation

High degree of investment security for long-term automation concepts

- Availability of 3 to 5 years (at least 1.5 years for Rack PC 547B and Panel PC 577B)
- 5-year repair and spare parts service (3 years for Rack PC 547B and Panel PC 577B) after expiry of the active marketing period
- Long-term concepts are implementable and reduce future engineering costs
- System-tested SIMATIC software (WinCC, WinAC, etc.) and connection options for distributed I/Os via an optional PROFIBUS interface on board link the industrial PCs with Totally Integrated Automation
- Certificates for worldwide marketing (cULus), the CE mark for use in industrial areas and in domestic, business and commercial environments
- Compatibility in hardware and software thanks to, for example, unchanged mechanical dimensions or the use of existing user software on all devices of the same generation
- Worldwide service and support (e.g. 24-hour SIMATIC Hotline)

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Overview

The operating systems listed in the table refer exclusively to the communication products specified!

Please refer to the description of the relevant IPC for the operating system that is available and has been released for that IPC.

														Embedded Systems				
Communications hardware	Communications software	Operating system environment of communications software					SIMATIC Industrial PC/ Field PG							Op. sys.	SIMATIC Industrial PC [4]			
		Windows XP Pro + SP2/3	Windows Server 2003 R2 / SP2	Windows server 2008	Vista Business / Ultimate + SP1	other operating systems	Field PG M	Rack PC 847B	Rack PC 547B, Panel PC 577B	Box PC 627B	Box PC 827B	Microbox 427B	Windows XP Embedded + SP1/SP2/FP 2007	Microbox 427B	Panel PC 477, 477B	Panel PC 677B	Box PC 627B
CPs and software for Industrial Ethernet																		
CP 1613 A2 (PCI 32-bit)	S7-1613	●	●	●	●	–	–	●	●	●	●	–	–	–	–	○ [9]	●
	S7-REDCONNECT [6]	●	●	●	●	–	–	○ [6]	○ [6]	○ [8][9]	○	–	–	–	–	○ [7][9]	○ [8][9]
CP 1623 (PCIe x1)	S7-1613	●	●	●	●	–	–	○ [9]	●	○ [9]	○ [9]	–	–	–	–	○ [9]	○ [9]
	S7-REDCONNECT [6]	●	●	●	●	–	–	○ [6][9]	○ [6]	○ [8][9]	○ [9]	–	–	–	–	○ [8][9]	○ [8][9]
SIMATIC PG/PC with integral Ethernet interface	SOFTNET-S7	●	●	●	●	–	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-S7 Lean	●	●	●	●	–	●	●	●	●	●	●	●	●	●	●	●
	SOFTNET-PG	●	●	●	●	–	●	●	●	●	●	●	●	●	●	●	●
CPs and software for PROFINET																		
CP 1616 [1] (PCI 32-bit)	DK-16xx PN IO [1] V2.1	●	○	○	○	○	–	○	○	○	○	–	○	–	–	○	○
CP 1604 [1] (PC/104-Plus)	DK-16xx PN IO [1] V2.1	●	○	○	○	○	–	–	–	–	–	○ [4]	○	○ [4]	○ [4]	–	–
SIMATIC PG/PC with integral Ethernet interface	SOFTNET PN IO	●	●	●	●	○ [10]	●	●	●	○	○	○ [4]	●	● [4]	● [4]	●	●
	PN CBA OPC server	●	●	●	●	–	●	●	●	○	○	○ [4]	–	–	–	–	–

1) Use of these CPs requires porting of the Development Kit DK-16xx PN IO to the relevant operating system environment. You can order the DK-16xx PN IO on the Internet at www.siemens.de/simatic-net/dk16xx. It contains sample software for Linux Suse 10 and Windows XP Professional. IRT operation requires an exclusive interrupt, which is not available in all expansion slots. In the case of SIMATIC Industrial PC versions and integrated PROFINET interface, the additional use of CP 1616/CP 1604 has not been released.
2) The use of these CPs in other operating system environments requires the porting of the development kit DK-5613 into the respective operating system environment. You can order the DK-5613 on the Internet at www.siemens.de/simatic-net/dk5613.
3) integrated PROFIBUS interface is optional
4) may be possible with restrictions, depending on the memory expansion and processor performance.
5) integrated PROFIBUS interface is optional in some cases
6) requires at least 2 PCI or 2 PCIe slots (4-way redundancy requires 4 free PCI or 4 PCIe slots!); hybrid configurations with CP 1613 A2 (PCI) and CP 1623 (PCIe) are possible, depending on PC configuration
7) not possible for 677B in version with 1x PCI or 1x PCIe slot
8) no 4-way redundancy, as only 2 slots available
9) depending on the slots of the selected PC version
10) with SOFTNET PN IO Linux

Instructions
- In each case, please pay attention to the specified boundary conditions of use for the SIMATIC NET products. These can be found on the Internet pages shown below.
- for further details on XP Embedded, see http://support.automation.siemens.com/WW/view/de/21661041
- further details relating to system requirements and operating environments can be found in the readme file of the communications products on the SIMATIC NET PC CD, Software Edition 2008 http://support.automation.siemens.com/WW/view/de/31675909
- Updates and supplements to catalog entries as well as updates to the above table can be viewed at http://www.siemens.com/simatic-net/ik-info

● suitable
– not suitable
○ suitable under certain conditions
with SIMATIC NET-CD Edition 2008

G_IK10_XX_10225

Connection options for Industrial Ethernet communications moduels to SIMATIC PCs

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Connection options

Overview (continued)

Communications hardware	Communications software	Operating system environment of communications software: Windows XP Pro + SP2/3	Windows Server 2003 R2 / SP2	Windows server 2008	Vista Business / Ultimate + SP1	other operating systems	SIMATIC Industrial PC/ Field PG: Field PG M	Rack PC 847B	Rack PC 547B, Panel PC 577B	Box PC 627B	Box PC 827B	Microbox 427B (with CP 5603)	Embedded Systems: Op. sys. Windows XP Embedded + SP1/SP2/FP 2007 (with CP 5603)	SIMATIC Industrial PC [4]: Microbox 427B (with CP 5603)	Panel PC 477, 477B (with CP 5603)	Panel PC 677B [7]	Box PC 627B	S7 Modular Embedded Controller with CP 5603
CPs and software for PROFIBUS																		
CP 5613 A2 CP 5613 FO CP 5614 A2 (PCI 32-bit)	CP with DP-Base	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	●	●
	DK-5613 [2] (DP-base)	○	○	○	○	○	–	○	○	○	○	○	○	○	○	○	○	○
CP 5603 (PCI-104)	DP-5613	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	●	●
	S7-5613	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	●	●
	FMS-5613	●	●	●	●	–	–	●	●	●	●	●	●	●	●	●	●	●
CP 5611 A2 (PCI 32-bit)	SOFTNET-DP	●	●	●	●	–	–	●	●	●	●	–	–	–	–	●	●	
	SOFTNET-DP slave	●	●	●	●	–	–	●	●	●	●	–	–	–	–	●	●	
	SOFTNET-S7	●	●	●	●	–	–	●	●	●	●	–	–	–	–	●	●	
CP 5621 (PCIe x1)	SOFTNET-DP	●	●	●	●	–	–	○ [9]	●	○ [9]	–	–	–	–	–	○ [9]	○ [9]	
	SOFTNET-DP slave	●	●	●	●	–	–	○ [9]	●	○ [9]	○ [9]	–	–	–	–	○ [9]	○ [9]	
	SOFTNET-S7	●	●	●	●	–	–	○ [9]	●	○ [9]						○ [9]	○ [9]	
CP 5512 (Cardbus, 32 bit)	SOFTNET-DP	●	●	●	●	–	●						–					
	SOFTNET-DP slave	●	●	●	●	–	●							–	–			
	SOFTNET-S7	●	●	●	●	–	●						–	–	–			
SIMATIC PG/PC with integral PROFIBUS Interface	SOFTNET-DP	●	●	●	●	–	●		–	●	●	○ [3]	●	○ [3]	●	●	●	
	SOFTNET-DP slave	●	●	●	●	–	●	–	–	●	●	○ [3]	●	○ [3]	●	●	●	
	SOFTNET-S7	●	●	●	●	–	●	–	–	●	●	○ [3]	●	○ [3]	●	●	●	

1) Use of these CPs requires porting of the Development Kit DK-16xx PN IO to the respective operating system environment. You can order the DK-16xx PN IO on the Internet at www.siemens.de/simatic-net/dk16xx. It contains sample software for Linux Suse 10 and Windows XP Professional. IRT operation requires an exclusive interrupt, which is not available in all expansion slots. In the case of SIMATIC Industrial PC versions and integrated PROFINET interface, the additional use of CP 1616/CP 1604 has not been released.
2) Use of these CPs in other operating system environment requires porting of the Development Kit DK-5613 into the relevant operating system environment. You can order the DK-5613 on the Internet at www.siemens.de/simatic-net/dk5613.
3) Integrated PROFIBUS interface is optional
4) May be possible with restrictions, depending on the memory expansion and processor performance.
5) Integrated PROFIBUS interface is optional in some cases
6) Requires at least 2 PCI or 2 PCIe slots (4-way redundancy requires 4 free PCI or 4 PCIe slots!); hybrid configurations with CP 1613 A2 (PCI) and CP 1623 (PCIe) are possible, depending on PC configuration
7) Not possible for 677B in version with 1x PCI or 1x PCIe slot
8) No 4-way redundancy, as only 2 slots available
9) Depending on the slots of the selected PC version

Instructions
- In each case, please pay attention to the specified boundary conditions of use for the SIMATIC NET products. These can be found on the Internet pages shown below.
- For further details on XP Embedded, see http://support.automation.siemens.com/WW/view/de/21661041
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- Updates and supplements to catalog entries as well as updates to the above table can be viewed at http://www.siemens.com/simatic-net/ik-info

● –
– not suitable
○ suitable under certain conditions
with SIMATIC NET-CD Edition 2008

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Connection options for PROFIBUS communications modules to SIMATIC PCs

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Overview

SIMATIC Rack PCs provide flexible, high-availability industrial PC systems for powerful yet compact applications using 19" technology.

Three device classes are available for different requirements:

- SIMATIC Rack PC 547B – maximum performance at an attractive price with Intel Core 2 Duo technology
- SIMATIC Rack PC 647B - maximum compactness for excellent industrial functionality with Intel Core 2 Duo technology
- SIMATIC Rack PC 847B – maximum expandability for excellent industrial functionality with Intel Core 2 Duo technology

Shared functions

- Maximum system performance for complex automation tasks in the industrial environment through use of Intel Core 2 Duo processors
- Designed for 24-hour continuous operation
- Monitoring and diagnostics functions (e.g. temperature, fan, watchdog)
- RAID1 configuration (mirrored drives), optionally in "hot swap" frames
- Compact dimensions for installation in control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Lockable front panel or front door
- Service-friendly equipment design due to prepared telescopic rail mounting
- Universal implementation as an industrial workstation or server
- Operating system preinstalled and activated for fast startup
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- High flexibility and expandability of components
- PCI and PCI-Express expansion slots
- Independent industrial product design

SIMATIC Rack PC 547B – maximum performance at an attractive price with Intel Core 2 Duo technology

- Maximum processor performance in maximum configuration without loss of power (throttling) at ambient temperatures of up to 40 °C
- Hard disks with capacities up to 250 GB for large volumes of data
- Low noise output thanks to controlled fan
- Status and alarm LEDs at the front for signaling critical alarm states
- Availability at least 1.5 years
- Guaranteed spare parts availability for at least 3 years

SIMATIC Rack PC 647B – maximum compactness for excellent industrial functionality with Intel Core 2 Duo technology

- Maximum compactness with up to 3 free PCI/PCI Express slots for installing long expansion cards and integrated interfaces for communication, e.g. integrated PROFIBUS/MPI or PROFINET interface
- Maximum thermal stability up to 50 °C ambient temperature even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Service-friendly device design due, for example, to the replacement of filters/fans from front without the need for tools or the opening of the enclosure with just one screw.
- Front LED concept for efficient self-diagnostics, e.g. monitoring of the hard disks in RAID1 configurators, fans or the status display for Ethernet, Profinet and Profibus.
- Integrated PROFIBUS DP/MPI or PROFINET interface (optional)
- High continuity of the components/design
- Motherboard developed and manufactured by Siemens
- 3 to 5 years availability
- Guaranteed spare parts availability for at least 5 years

SIMATIC Rack PC 847B – maximum expandability for excellent industrial functionality with Intel Core 2 Duo technology

- Maximum expandability due to 11 free PCI/PCI Express slots for installing long expansion cards and integrated interfaces for communication, e.g. integrated PROFIBUS/MPI or PROFINET interface
- High thermal stability up to 50 °C even at maximum processor performance
- High vibration/shock resistance thanks to special hard disk holders
- Service-friendly device design due, for example, to the replacement of filters/fans from front without the need for tools or the opening of the enclosure with just one screw.
- Front LED concept for efficient self-diagnostics, e.g. monitoring of the hard disks in RAID1 configurators, fans or the status display for Ethernet, Profinet and Profibus.
- Integrated PROFIBUS DP/MPI interface (optional)
- High continuity of the components/design
- Motherboard developed and manufactured by Siemens
- 3 to 5 years availability
- Guaranteed spare parts availability for at least 5 years

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Overview (continued)

	SIMATIC Rack PC 547B	SIMATIC Rack PC 647B	SIMATIC Rack PC 847B
Design			
19" rack	4HU	2HU	4HU
Prepared for telescopic rails	●	●	●
Horizontal/vertical installation	● / ●	● / -	● / ●
19" fixing bracket can be removed from outside	●	●	●
Tower Kit (optional)	●	–	●
General features			
Processor	• Intel Core 2 Duo E6600, 2.4 GHz, 1066 MHz FSB • Intel Core 2 Duo E4300, 1.8 GHz, 800 MHz FSB • Intel Celeron 440, 2.0 GHz, 800 MHz FSB	• Intel Core 2 Duo T7400, 2.16 GHz, 667 MHz FSB • Intel Core 2 Duo T5500, 1.66 GHz, 667 MHz FSB • Intel Celeron M 440, 1.86 GHz, 533 MHz FSB	• Intel Core 2 Duo T7400, 2.16 GHz, 667 MHz FSB • Intel Core 2 Duo T5500, 1.66 GHz, 667 MHz FSB • Intel Celeron M 440, 1.86 GHz, 533 MHz FSB
Main memory	512 MB, expandable up to 4 GB	512 MB, expandable up to 4 GB	256 MB, expandable up to 4 GB
Slots for expansions (all long)	• 4 x PCI • 1 x PCI-Express x16 • 2 x PCI-Express x1	• 2 x PCI • 1 x PCI-Express x16	• 7 x PCI • 1 x PCI-Express x16 • 3 x PCI-Express x4 (optional)
Onboard graphics	1x VGA	1 x VGA;1 x DVI-D (via adapter card, optional)	1 x VGA; 1 x DVI-D (via adapter card, optional)
Graphics card (optional)	PCI-Express x 16 (2 x VGA or 2 x DVI)	PCI-Express x 16 (2 x VGA or 2 x DVI)	PCI-Express x 16 (2 x VGA or 2 x DVI)
Operating system			
• None	●	●	●
• Preinstalled/supplied on Restore DVD	• Windows 2000 Professional Multi-Language • Windows XP Professional Multi-Language • Windows Vista Ultimate Mutli-Language • Windows Server 2003 incl. 5 Client Multi-Language	• Windows XP Professional Multi-Language • Windows Vista Ultimate Multi-Language • Windows Server 2003 incl. 5 Client Multi-Language	• Windows 2000 Professional Multi-Language • Windows XP Professional Multi-Language Windows Vista Ultimate Mutli-Language • Windows Server 2003 incl. 5 Client Multi-Language
• Order separately	–	RMOS3 V3.5	RMOS3 V3.50
• Project-specific on request	Linux [1]; Other	Linux (available soon) [1]; Other	Linux [1]; Other
Interfaces			
PROFIBUS/MPI	–	12 Mbit/s (compatible with CP5611), optional	12 Mbit/s (compatible with CP5611), optional
PROFINET	–	3 x RJ45 (compatible with CP1616), optional	3 Port switch RJ45 (compatible with CP1616), optional
Ethernet	1 x 10/100/1000 Mbit/s	2 x 10/100/1000 Mbit/s	2 x 10/100/1000 Mbit/s
USB 2.0 (high current)	6 x, 2 of which at front	6 x, 2 of which at front	6 x, 2 of which at front
VGA / audio	1 x / Yes	1 x / Yes	1 x / Yes
Drives			
SATA hard disks			
• Internal installation	●	–	●
• Installation at the front in the swap frame	●	●	●
• Installed internal in drive holder (shock and vibration-damped)	–	●	●
RAID1 configuration	●	●	●
Optical drives			
• DVD-ROM	●	–	●
• DVD±R/RW	●	●	●
Slots	6 x (2 x internal, 4 x at front)	3x (internal: 2 x 3,5", 1 x at front 12.7 mm slimline) or 3x (2 x at front 3.5" low profile swap frame, 1 x 12.7 mm slimline)	6 x(2 x internal, 4 x at front)
Ambient conditions [2]			
Vibration/shock load during operation	0.2 g / 1 g	0.5 g / 5 g	0.5 g / 5 g
Ambient temperature during operation	With maximum configuration: 5 ... 40 °C	With maximum configuration: 5 ... 50 °C	With maximum configuration: 5 ... 50 °C

● Available
– Not available

1) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX" (LINUX is a trademark of Linus Torvald); see *http://www.siemens.de/simatic-pc/geeignet-fuer-linux*

2) Restrictions in use of DVD±R/RW and hard disks in swap frame.

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Overview

The SIMATIC Rack PC 547B is a rugged industrial PC in 19" rack format (4 HU).

It offers:

- Maximum performance
- Attractive price
- Intel Core 2 Duo technology

Benefits

Maximum system performance for complex measuring, control and visualization tasks

- State-of-the-art PC technology (e.g. Intel Core 2 Duo and Extended Memory 64 (EM64T) processor technology)
- High-level performance (e.g. Intel 945G Express Chipset, DDR2 667 memory supporting dual-channel technology)
- High data transfer rates (e.g. with Serial ATA hard disks up to 250 GB, Gigabit Ethernet, PCI-Express technology)

Industrial compatibility and compactness for 24-hour use in an industrial environment

- Maximum processor performance (in maximum configuration) without loss of power (throttling) at ambient temperatures of up to 40 °C
- Specific product design with a new front panel design and flat, coated, dirt-repellent surfaces
- Metal housing with a high degree of electromagnetic compatibility for use in industrial areas and in domestic, business and commercial environments
- Suitable for installing in space-saving control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Special hard disk mountings and card retainers for protection against vibration and shock

Benefits (continued)

High flexibility and user friendliness during commissioning, operation and service

- Preinstalled and activated operating system
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- Low noise output thanks to controlled fan
- Universal implementation as an industrial workstation or server
- RAID1 on-board (a PCI slot is not occupied)
- Fast identification and replacement of the hard disk in the event of a fault
- Flexible applications in many different positions with telescopic rails or as tower industrial PC
- High degree of flexibility and expandability thanks to integrated interfaces and 7 slots (PCI and PCI-Express)

Reduction in standstill times thanks to high system availability

- Assured 24-hour operation (high MTBF, speed-controlled fan)
- Efficient self-diagnosis (front status LED for fan or temperature, SIMATIC PC DiagMonitor)
- High degree of data security thanks to mirror drive system, optionally in "hot swap" frames

High degree of investment security for long-term automation concepts

- Availability for at least 1.5 years, guaranteed availability of component spare parts for 3 years
- System-tested with SIMATIC components
- Certification for global marketing (cULus)
- Support for legacy interfaces (PS/2, COM, LPT)
- Installation compatible for many device generations
- Global service and support

Application

The SIMATIC Rack PC 547B offers system integrators, cabinet designers, system engineers and machine designers a 19" rack PC platform for high-performance IT applications on the control and cell levels. It can be used for:

- Process and visualization applications
- Industrial image processing
- Quality assurance/monitoring tasks
- Measuring and control tasks
- Data acquisition/management

The SIMATIC RACK PC 547B has CE certification for use in the industrial sector as well as in residential and commercial areas, and small businesses. In addition to the industrial applications, it can also be used in building services automation or in facilities open to the public.

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SIMATIC Rack PC 547B

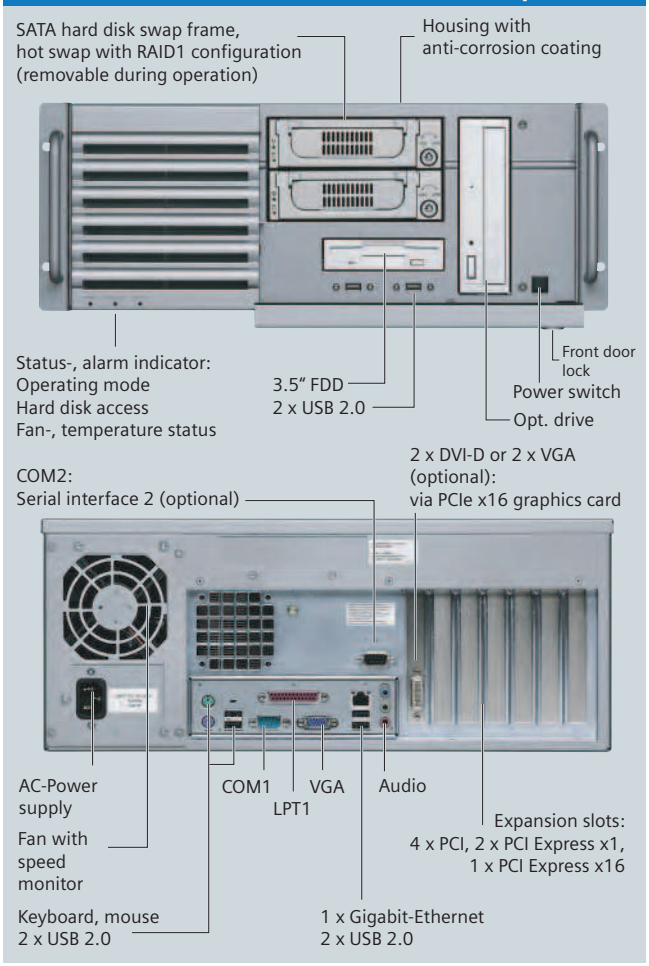
Design

Basic design

- All-metal 19" casing (4 HU) for high electromagnetic compatibility and mechanical ruggedness; externally painted, prepared for mounting on telescopic rails
- Horizontal and vertical installation is possible, can be used as an industrial tower PC by using the appropriate kit.
- Lockable front flap for authorized access to front swap media, operator controls (Reset, Power), USB interface, front fan and dust filter
- Card retainer for PC modules for safe transport (vibration and shock)
- Replacement of PC components (e.g. PC cards or HDD) with a single tool
- Replacement of dust filter without tools
- Dust protection by means of overpressure ventilation using bearing-seated front fan via filter
- 6 slots for installing drives
  - On the front: 1 x 3.5"; 3 x 5.25"
  - Internal: 2 x 3.5"
- Graphics on-board on the PCI-Express bus, Intel GMA950 integrated in chip set, up to 2048 x 1536 pixels, 75 Hz, 16 bit colors
- Interfaces:
  - 1 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
  - 4 x USB 2.0 at the rear, 2 x USB 2.0 at the front
  - 2 x PS/2, 1 x COM1, 1 x LPT, 1 x VGA
  - Audio: Line In/Out, Mic
- 7 spare slots for expansions (all long):
  - 4 x PCI
  - 1 x PCI-Express x16
  - 2 x PCI-Express x1
- Power supply: 110 - 230 V AC, 50/60 Hz

For design variations of the SIMATIC PC see "ordering data".

SIMATIC Rack PC 547B: Connections and Expansions


SATA hard disk swap frame, hot swap with RAID1 configuration (removable during operation)
Housing with anti-corrosion coating
Status-, alarm indicator: Operating mode Hard disk access Fan-, temperature status
3.5" FDD
2 x USB 2.0
Front door lock
Power switch
Opt. drive
COM2: Serial interface 2 (optional)
2 x DVI-D or 2 x VGA (optional): via PCIe x16 graphics card
AC-Power supply
Fan with speed monitor
COM1
LPT1
VGA
Audio
Expansion slots: 4 x PCI, 2 x PCI Express x1, 1 x PCI Express x16
Keyboard, mouse 2 x USB 2.0
1 x Gigabit-Ethernet 2 x USB 2.0

A Tower Kit can be ordered as an accessory for converting the computer into an **Industrial Tower PC**.
See *"Ordering data for accessories"*

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Ordering data

Order No.

Configuration [1]

SIMATIC Rack 547B Z **6AG4 104-0** _ _ _ - _ _ _ _

interfaces:
1 x Gbit LAN (RJ45);
1 x serial (COM1);
1 x parallel (LPT);
4 x USB,
2 x USB at the front;
2 x PS/2; audio;
7 slots (4 x PCI long,
1 x PCIe x16,
2 x PCIe x1);
slots:
6 (3 x 5.25", 1 x 3.5" externally accessible; 2 x 3,5" internally accessible)
Temperature and fan monitoring; watchdog;
card retainer;

Processor:

- Celeron 440 (2.0 GHz, 800 MHz FSB, 512 K L2 Cache) — **A**
- Core 2 Duo E4300 (1.8 GHz, 800 MHz FSB, 2 MB L2 Cache, EM64-T) — **B**
- Core 2 Duo E6600 (2.4 GHz, 1066 MHz FSB, 4 MB L2 Cache, EM64-T, VT) — **C**

Hard disks:

- 250 GB HDD SATA; internal — **A**
- 2 x 250 GB HDD SATA; internal — **B**
- RAID1 (2 x 250 GB HDD SATA, mirror disks); internal — **C**
- 250 GB HDD SATA in swap frame; front — **G**
- 2 x 250 GB HDD SATA in swap frame; front — **H**
- RAID1 (2 x 250 GB HDD SATA, mirror disks) in swap frame Hot-Swap; front — **J**

Memory:

- 512 MB DDR2 SDRAM (1 x 512 MB), single channel — **0**
- 1.0 GB DDR2 SDRAM (2 x 512 MB), dual channel — **1**
- 2.0 GB DDR2 SDRAM (2 x 1.0 MB), dual channel — **2**
- 3.0 GB DDR2 SDRAM (2 x 1.0 MB, 2 x 512 MB), dual channel — **3**
- 4.0 GB DDR2 SDRAM (4 x 1.0 MB), dual channel — **4**

Order No.

Configuration (continued)

SIMATIC Rack PC 547B Z **6AG4 104-0** _ _ _ _ - _ _ _

Swap media:

- DVD-ROM; without FDD; — **1**
- DVD+/-RW; without FDD; — **2**
- DVD-ROM and FDD; — **3**
- DVD+/-RW and FDD; — **4**

Hardware expansion:

- No expansion — **0**
- Serial interface (COM2) — **1**
- Serial interface (COM2) + graphics card PCIe x16, DH (2 x DVI or 2 x VGA) — **2**

Operating system

- Windows 2000 Professional, MUI (Eng, Fr, Ger, It, Sp), SP4 — **A**
- Windows XP Professional, MUI (Eng, Fr, Ger, It, Sp), SP2, SP3 enclosed — **B**
- Windows Vista Ultimate MUI (Eng, Fr, Ger, It, Sp), SP1 enclosed — **C**
- Windows Server 2003 Standard Edition incl. 5 clients, MUI (Eng, Fr, Ger, It, Sp), SP1, SP2 enclosed — **M**
- No operating system — **X**

Software expansion

- SIMATIC PC DiagMonitor[3] enclosed — **A**
- SIMATIC PC Image Creator[2)3)] software enclosed — **B**
- SIMATIC PC DiagMonitor[3] & Image Creator software[2)3)] enclosed; — **C**
- Without software — **X**

Power supply, country-specific cable version:

- 110/230 V industrial power supply; European power cable — **0**
- 110/230 V industrial power supply; Chinese power cable — **5**

1) The SIMATIC PC Online Configurator offers a current overview: www.siemens.com/ipc-configurator
2) Not together with Windows 2003 Server
3) Not together with Windows Vista Ultimate
Z) Subject to export regulations: AL: N and ECCN: 5D992

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SIMATIC Rack PC 547B

Ordering data

		Order No.
Preferred versions (ex stock)		
SIMATIC Rack PC 547B Interfaces: 1x 10/100/1000 Mbit/s Ethernet (RJ45); 1x VGA; 2x COM; 1x LPT; 2x PS/2; Audio 4x USB 2.0 on rear, 2x USB2.0 on front; 110/230V industrial power supply unit European power cable • Core 2 Duo E4300 (1.8 GHz, 800 MHz FSB, 2MB L2 Cache, EM64-T) • 250 GB HDD internal • 512 MB DDR2 667 SDRAM (1 x 512 MB), single channel • DVD-ROM and diskette drive • Without operating system	Z	**6AG4104-0CA03-1XX0**
SIMATIC Rack PC 547B Interfaces: 1x 10/100/1000 Mbit/s Ethernet (RJ45); 1x VGA; 2x COM; 1x LPT; 2x PS/2; Audio 4x USB2.0 on rear, 2x USB2.0 on front; 110/230V industrial power supply unit European power cable • Core 2 Duo E4300 (1.8 GHz, 800 MHz FSB, 2MB L2 Cache, EM64-T) • 250 GB HDD internal • 1 GB DDR2 667 SDRAM (2 x 512 MB), dual channel • DVD±RW and diskette drive • Windows XP Prof. multi-language (Eng, Fr, Ger, It, Sp), SP2	Z	**6AG4104-0CA14-1BX0**
SIMATIC Rack PC 547B Interfaces: 1x 10/100/1000 Mbit/s Ethernet (RJ45); 1x VGA; 2x COM; 1x LPT; 2x PS/2; Audio 4x USB2.0 on rear, 2x USB2.0 on front; 110/230V industrial power supply unit European power cable • Core 2 Duo E6600 (2.4 GHz, 1066 MHz FSB • 4MB L2 Cache, EM64-T, VT) • 250 GB HDD internal • 1.0 GB DDR2 667 SDRAM (2 x 512 MB), dual channel • DVD±RW and diskette drive • Windows XP Prof. multi-language (Eng, Fr, Ger, It, Sp), SP2	Z	**6AG4104-0DA14-1BX0**

		Order No.
Accessories		
Memory expansion		
• 512 MB (1x 512 MB), DDR2 667, DIMM	A	**6ES7 648-2AF30-0HA0**
• 1 GB (2 x 512 MB) DDR2 667 DIMM, kit for dual-channel technology	A	**6ES7 648-2AF40-0HB0**
• 2 GB (2 x 1 GB) DDR2 667 DIMM, kit for dual-channel technology	A	**6ES7 648-2AF50-0HB0**
Hard disk slide-in unit for swap frame SIMATIC PC accessories, slide-in HDD swap frame for 3.5" hard disk, serial ATA (without hard disk)		**6ES7 648-0EB00-1BA0**
Tower Kit for converting the computer into an industrial tower PC		**6ES7 648-1AA00-0XC0**
Filter mats for Rack PC 547B Packing unit 10 units		**A5E00246975**
Power cable, straight, 3 m long		
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden		**6ES7 900-0AA00-0XA0**
• United Kingdom		**6ES7 900-0BA00-0XA0**
• Switzerland		**6ES7 900-0CA00-0XA0**
• USA		**6ES7 900-0DA00-0XA0**
• Italy		**6ES7 900-0EA00-0XA0**
• China		**6ES7 900-0FA00-0XA0**
36 month service option for SIMATIC Rack PC and Box PC [1]		**A5E00510072**
Expansion components		
SIMATIC PC keyboard German/international		
• USB connection		**6ES7 648-0CB00-0YA0**
• incl. 4-port USB hub	A	**6ES7648-0CD00-0YA0**
USB mouse		
• (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
SIMATIC USB FlashDrive	A	
2 GB, USB 2.0, metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
for communication products see chapter 7		
for power supplies and AC UPS see page 3/87		
Expansion components see chapter 9		

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix

A) Subject to export regulations: AL: N and ECCN: EAR99H

Z) Subject to export regulations: AL: N and ECCN: 5D992

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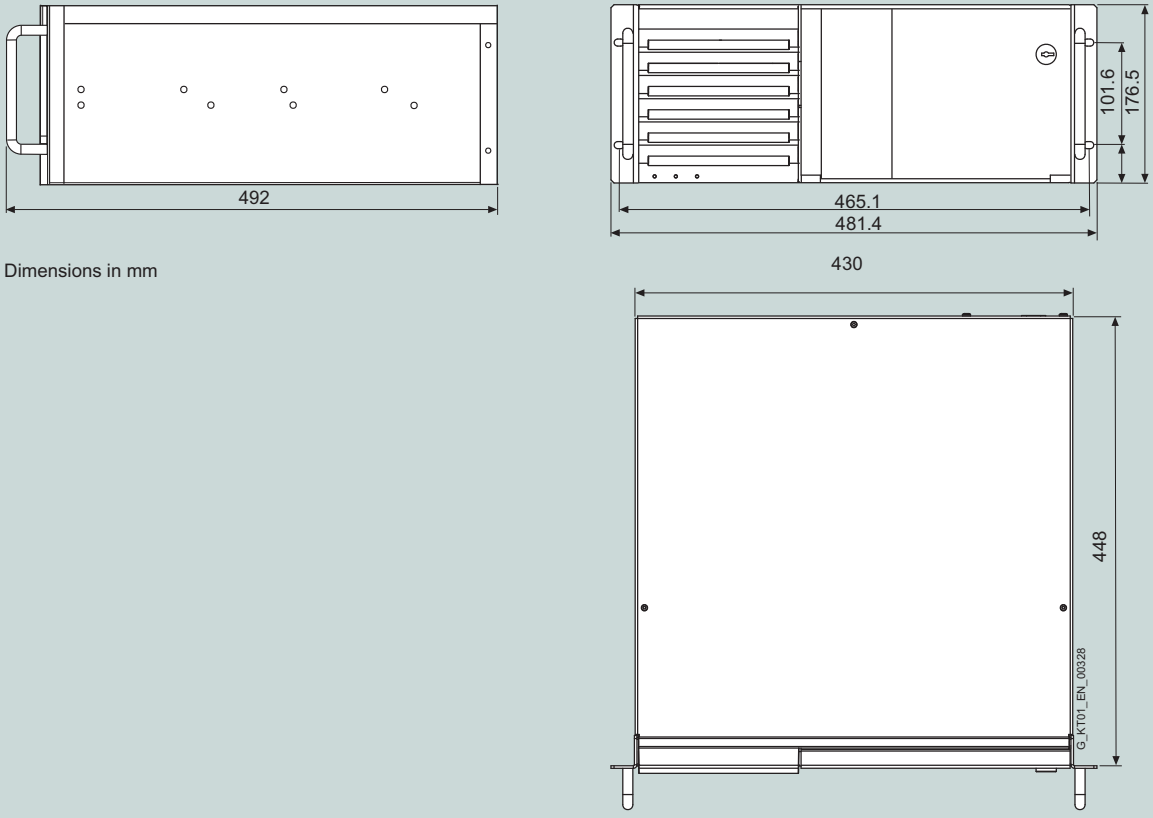
Dimensions



Dimensions in mm

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SIMATIC Rack PC 647B

Overview

The SIMATIC Rack PC 647B is a very rugged, high-performance industrial PC in 19" rack design (2HU) with excellent industrial functionality.

It offers:

- Maximum compactness
- Maximum ruggedness
- Intel Core 2 Duo technology

Benefits

Maximum compactness and industrial compatibility for 24-hour use in an industrial environment

- Compact housing design (2HU)
- Suitable for installing in space-saving control cabinets only 500 mm deep
- Maximale Prozessorleistung (im Vollausbau) ohne Leistungsverlust (Throttling) bis 50 °C Umgebungstemperatur
- Specific product design with a new front design and flat, coated, dirt-repellent surfaces
- All-metal housing with high EMC for use in industrial environment
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Special hard disk mountings and card retainers for protection against vibration and shock

High productivity thanks to faster data processing

- State-of-the-art PC technology (e.g. Intel Core 2 Duo and Extended Memory 64 (EM64T) processor technology)
- High-level performance (e.g. Intel 945GM Express Chipset, DDR2 memory supporting dual-channel technology)
- High data transfer rates (e.g. with Serial ATA hard disks, dual Gbit Ethernet)

Benefits (continued)

Reduction in standstill times thanks to high system availability

- Assured 24-hour operation (high MTBF, speed-controlled fan)
- Efficient self-diagnostics (status display for Ethernet and PROFIBUS; alarm display for fan, temperature, watchdog and hard disks in RAID1 configuration, SIMATIC PC DiagMonitor)
- High degree of data security thanks to mirror drive system, optionally in "hot swap" frames
- Service-friendly design (modifications, servicing)

Cost reductions through high investment security

- Long-term platform with embedded Intel components
- Availability for 3-5 years, guaranteed availability of component spare parts for 5 years
- System-tested with SIMATIC components
- Certification for global marketing (cULus)
- Support for legacy interfaces (PS/2, COM, LPT)
- Installation compatible for many device generations
- Global service and support

Minimization of costs through time savings for commissioning, operation and servicing

- Preinstalled and activated operating system
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- Low noise output thanks to controlled fan
- Universal implementation as an industrial workstation or server
- PROFIBUS or PROFINET interface and RAID1 controller onboard (optional)
- 2 x LAN 10/100/1000 Mbit/s connections (Gbit LAN with teaming capability)
- Fast identification and replacement of the hard disk in the event of a fault (e.g. front LEDs for HDD alarm in RAID1 configuration)
- High degree of flexibility and expandability thanks to integrated interfaces and up to 3 slots (PCI and PCI-Express)

Application

The SIMATIC Rack PC 647B provides machine, systems and control cabinet engineering companies with a high-performance and highly flexible 19" rack PC platform for machine-oriented industrial applications:

- Measuring, open-loop control and closed-loop control of process and machine data
- Visualization of manufacturing sequences
- Computing and processing of images within the scope of quality inspections
- Data acquisition and management

The SIMATIC Rack PC 647B has CE certification for use in the industrial sector as well as in residential and commercial areas, and small businesses. In addition to the industrial applications, it can also be used in building services automation or in facilities open to the public.

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Design

Basic design

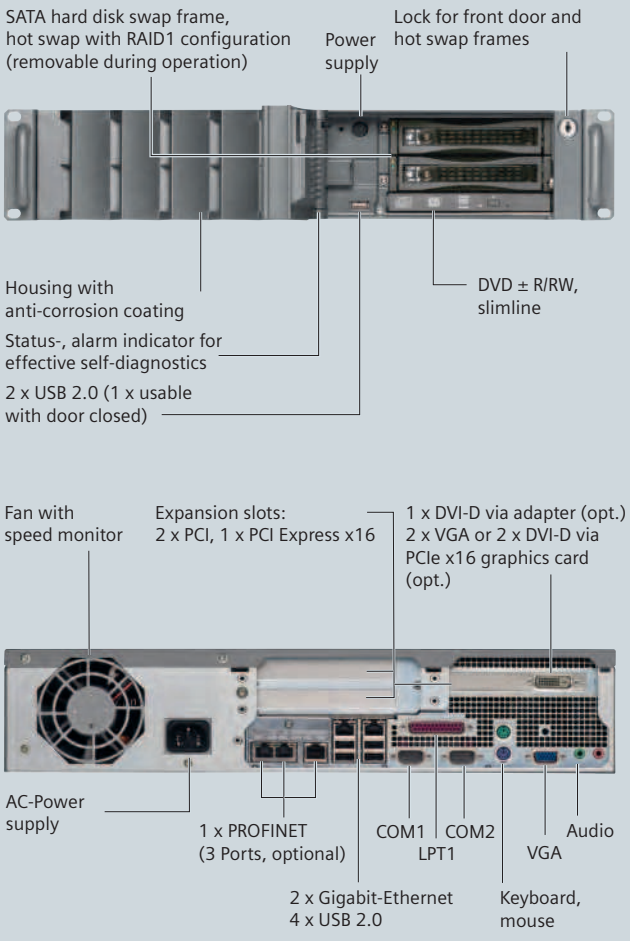
- All-metal 19" casing (2HU) for high degree of mechanical ruggedness (vibration/shock) and high electromagnetic compatibility
- Horizontal installation is possible and it is prepared for mounting telescopic rails
- Lockable front door for authorized access (access protection) to front swap media, command elements (reset, power), USB interface, front fan and dust filter
- Card retainer for reliable operation of PC modules in the event of vibrations and shocks
- Opening of the enclosure cover with only one screw and replacement of PC components (e.g. PC cards or HDD) with a single tool
- Replacement of front fan and dust filter without the need for tools
- Dust protection by means of overpressure ventilation using bearing seated front fan through filter
- 3 slots for installing drives
  - on the front: 2x HDD swap frame (low profile); 1x optical drive (Slimline)
  - internal: 2 x 3.5" (in the optional vibration-damping drive bracket) as an alternative for swap frames
- Graphics on-board on the PCI-Express bus, Intel GMA950 integrated in chip set, up to 2048 x 1536 pixels, 75 Hz, 16 bit colors
- Interfaces:
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45, with team working capability)
  - 4 x USB 2.0 at the rear, 2 x USB 2.0 at the front (one of which can be used when door is closed)
  - 2 x PS/2, COM1, COM2, LPT1, VGA
  - Audio: Line Out, Mic
- 3 spare slots for expansions (all long):
  - 2 x PCI long
  - 1 x PCI-Express x16 (PEG)
- Power supply: 110/230 V AC, 50/60 Hz, cable of country-specific design

Design variations

- Processor:
  - Intel Core 2 Duo T7400, 2.16 GHz, 667 MHz FSB, 4 MB L2 Cache with Extended Memory 64 (EM64) and virtualization technology (VT)
  - Intel Core 2 Duo T5500, 1.66 GHz, 667 MHz FSB, 2 MB L2 Cache with Extended Memory 64 (EM64) technology)
  - Intel Celeron M 440, 1.86 GHz, 533 MHz FSB, 1 MB L2 Cache
- Main memory expansion from 512 MB to 4 GB DDR2 667 SDRAM (configured as dual channel for top performance from 2 GB upwards)
- Fieldbus onboard:
  - PROFIBUS/MPI, CP5611-compatible or PROFINET, 3 x RJ45, CP16116-compatible
- Graphics expansion:
  - PCI-Express graphics card x16, (Dual Head: 2 x VGA or 2 x DVI-I), 128 MB, up to 2048 x 1536 pixels, 75 Hz, 32 bit colors
  - ADD card through PCI-Express x16 slot (1 x DVI-D), for connection of a digital monitor
- Drives:
  - Serial ATA 3.5" hard disks with NCQ technology: Installed internally on the fixed hard disk support (1 x 80 GB)
  - Installed internally in a vibration/shock-absorbing hard disk support or in a swap frame at the front (hot swapping in RAID 1 configuration):
  - 1 x 80 GB
  - 1 x or 2 x 160 GB
  - RAID1, 2 x 160 GB (RAID controller onboard)
  - Optical drive DVD±/-R/RW Slimline
  - CompactFlash drive, internal
- Country-specific power cable
- Preinstalled operating systems:
  - Windows XP Professional Multi-Language
  - Windows Vista Ultimate Multi-Language
  - Windows Server 2003 Standard Edition incl. 5 Client Multi-Language
- SIMATIC PC DiagMonitor[1)]
- SIMATIC PC/PG Image Creator[1)]

1) Further information can be found under "Expansion components".

SIMATIC Rack PC 647B: Connections and Expansions


SATA hard disk swap frame, hot swap with RAID1 configuration (removable during operation)
Power supply
Lock for front door and hot swap frames
Housing with anti-corrosion coating
Status-, alarm indicator for effective self-diagnostics
2 x USB 2.0 (1 x usable with door closed)
DVD ± R/RW, slimline
Fan with speed monitor
Expansion slots: 2 x PCI, 1 x PCI Express x16
1 x DVI-D via adapter (opt.) 2 x VGA or 2 x DVI-D via PCIe x16 graphics card (opt.)
AC-Power supply
1 x PROFINET (3 Ports, optional)
COM1
COM2
LPT1
Audio
VGA
2 x Gigabit-Ethernet 4 x USB 2.0
Keyboard, mouse

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SIMATIC Rack PC 647B

Ordering data

Order No.

Configuration [1]

SIMATIC Rack PC 647B — 6AG4112- 0 ■■■■ - ■■■■

Interfaces: 2 x 10/100/1000 Mbit/s Ethernet (RJ45); 1 x graphic (VGA); 2 x COM; 1 x LPT; 2 x PS/2; 4x USB 2.0 on rear, 2 x USB 2.0 on front; audio; drive slots: 3 (2 x low profile swap frames, 1 x Slimline ODD externally accessible; 2 x 3.5" internally accessible alternatively to swap frames) Temperatur- und Temperature and fan monitoring; watchdog; card retainer

Processor, motherboard:

- Celeron M 440 (1.86 GHz, 1MB L2 Cache), motherboard without fieldbus — A
- Celeron M 440 (1.86 GHz, 1MB L2 Cache), motherboard with PROFIBUS/MPI — B
- Celeron M 440 (1.86 GHz, 1 MB L2 Cache), motherboard with PROFINET (3x RJ45, CP1616 compatible) [2] — C
- Core 2 Duo T5500 (1.66 GHz, 2MB L2 Cache, EM64-T), motherboard without fieldbus — G
- Core 2 Duo T5500 (1.66 GHz, 2MB L2 Cache, EM64-T), motherboard with PROFI-BUS/MPI — H
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2 Cache, EM64-T), motherboard with PROFINET (3x RJ45, CP1616 compatible)[2] — J
- Core 2 Duo T7400 (2.16 GHz, 4MB L2 Cache, EM64-T, VT), motherboard without fieldbus — K
- Core 2 Duo T7400 (2.16 GHz, 4MB L2 Cache, EM64-T, VT), motherboard with PROFIBUS/MPI — L
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2 Cache, EM64-T, VT), motherboard with PROFINET (3x RJ45, CP1616 compatible) [2] — M

Hard disks:

- 80 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — A
- 160 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — B
- 2 x 160 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — C
- RAID1 (2 x 160 GB HDD SATA, mirror disks); 0.5 g vibration, 5 g shock, internal — D
- 80GB HDD SATA in swap frame; front — H
- 160 GByte HDD SATA in swap frame; front — K
- 2 x 160 GB HDD SATA in swap frame; front — M
- RAID1 (2 x 160 GB HDD SATA) in swap frame, Hot-Swap; front — P

Order No.

Configuration (continued)

SIMATIC Rack PC 647B — 6AG4112- 0 ■■■■ - ■■■■

Memory configuration:

- 512 MB DDR2 SDRAM (1 x 512 MB), single channel — 1
- 1 GB DDR2 SDRAM (1 x 1 MB), single channel — 2
- 2 GB DDR2 SDRAM (2 x 1 GB), dual channel — 3
- 4 GB DDR2 SDRAM (2 x 2 GB), dual channel — 4

Swap media:

- Compact Flash drive, internal — 0
- DVD±RW — 1
- without swap media — 8

Bus module/hardware expansion

- Bus modules 3 slots: 2 x PCI, 1 x PCIe x16; without HW expansions — 0
- Bus modules 3 slots: 2 x PCI, 1 x PCIe x16 assigned; + DVI extension adapter (DVI-D) — 1
- Bus modules 3 slots: 2 x PCI, 1 x PCIe x16 assigned; + graphics card PCIe x16, DH (2 x DVI or 2 x VGA) — 2

Operating system:

- Windows XP Professional, MUI (Eng, Fr, Ger, It, S), SP2, SP3 enclosed — B
- Windows Vista Ultimate, MUI (Eng, Fr, Ger, It, Sp), SP1 enclosed — C
- Windows Server 2003 Standard Edition incl. 5 clients, MUI (Eng, Fr, Ger, It, Sp), SP1, SP2 enclosed — M
- without operating system — X

Software expansion:

- SIMATIC PC DiagMonitor 3.2 [3] Software enclosed — A
- SIMATIC PC Image Creator 2.1 Software enclosed — B
- SIMATIC PC DiagMonitor 3.2 [3] & Image Creator 2.1 Software enclosed — C
- without software — X

Power supply, country-specific cable:

- 110/230 V industrial power supply with Namur; European power cable — 0
- 110/230 V industrial power supply with Namur; UK power cable — 1
- 110/230 V industrial power supply with Namur; power cable for Switzerland — 2
- 110/230 V industrial power supply with Namur; USA power cable — 3
- 110/230 V industrial power supply with Namur; power cable for Italy — 4
- 110/230 V industrial power supply with Namur; power cable for China — 5

1) The SIMATIC PC Online Configurator offers a current overview: www.siemens.com/ipc-configurator
2) Not together with Windows 2003 Server
3) Not together with Windows Vista Ultimate

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Ordering data

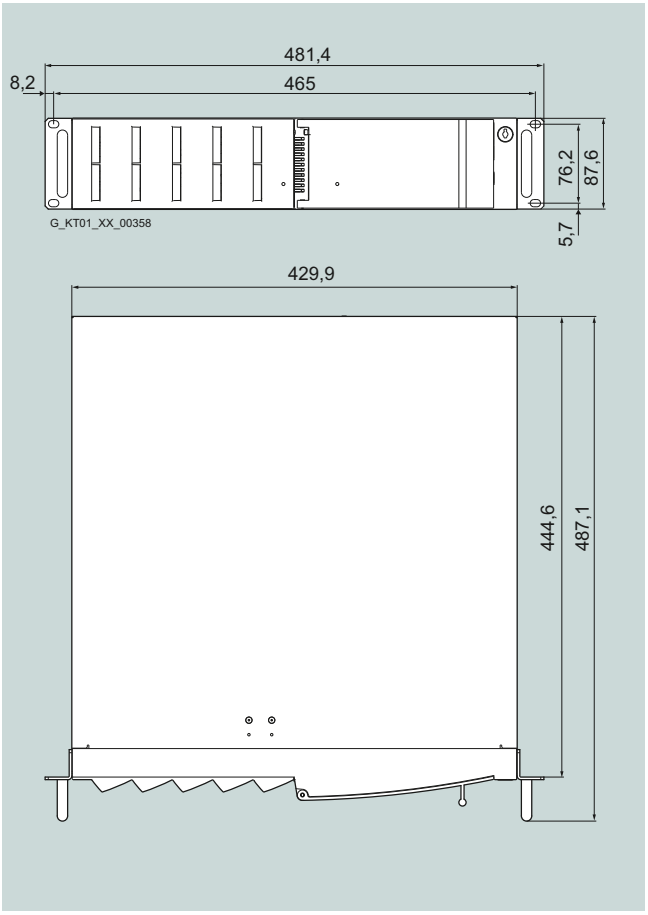
		Order No.
Accessories		
Memory expansion		
• 512 MB DDR2 677 SDRAM, SO DIMM	A	**6ES7 648-2AG30-0HA0**
• 1 GB DDR2 667 SDRAM, SO DIMM	A	**6ES7 648-2AG40-0HA0**
• 2 GB DDR2 667 SDRAM, SO DIMM	A	**6ES7 648-2AG50-0HA0**
Power cable, straight, 3 m long		
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden		**6ES7 900-0AA00-0XA0**
• United Kingdom		**6ES7 900-0BA00-0XA0**
• Switzerland		**6ES7 900-0CA00-0XA0**
• USA		**6ES7 900-0DA00-0XA0**
• Italy		**6ES7 900-0EA00-0XA0**
• China		**6ES7 900-0FA00-0XA0**
36 month service option		
for SIMATIC Rack PC and Box PC [1]		**A5E00510072**
SIMATIC PC CompactFlash with diagnostics		
• 256 MB		**6ES7 648-2BF02-0XC0**
• 2 GB		**6ES7 648-2BF02-0XF0**
• 4 GB		**6ES7648-2BF02-0XG0**
• 8 GB		**6ES7648-2BF02-0XH0**

		Order No.
Expansion components		
SIMATIC PC keyboard German/international		
• USB connection		**6ES7 648-0CB00-0YA0**
• incl. 4-port USB hub	A	**6ES7648-0CD00-0YA0**
USB mouse		
• (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
SIMATIC USB FlashDrive		
2 GB, USB 2.0, metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
For communication products see chapter 7		
For power supplies and DC UPS see page 3/83		
RMOS3 real-time operating system see page 3/66		

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix. Chapter 10

A) Subject to export regulations: AL: N and ECCN: EAR99H

Dimensions



Technical data of the telescopic rails	
Ultimate load per pair, min.	30 kg
Full extraction length, min.	470 mm
Rail thickness, max.	9.7 mm
Mounting screws	M5 x 6 mm

The mounting screws of the telescopic rails may not protrude by more than 5 mm into the enclosure

The enclosure is prepared for the following telescopic rails: Rittal: Type 3659.180 for 600 mm cabinet / Type RP 3659.190 for 800 mm cabinet

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SIMATIC Rack PC 847B

Overview

The SIMATIC Rack PC 847B is a very rugged, high-performance industrial PC in 19" rack design (4 HU) with excellent industrial functionality.

It offers:

- Maximum expandability
- Maximum ruggedness
- Intel Core 2 Duo technology

Benefits

Maximum industrial compatibility and compactness for 24-hour use in an industrial environment

- Maximum processor performance (in maximum configuration) without loss of power (throttling) at ambient temperatures of up to 50 °C
- Specific product design with a new front design and flat, coated, dirt-repellent surfaces
- All-metal housing with high EMC for use in industrial environment
- Suitable for installing in space-saving control cabinets only 500 mm deep
- Dust protection thanks to overpressure ventilation concept with fan on the front and dust filter
- Special hard disk mountings and card retainers for protection against vibration and shock

High productivity thanks to faster data processing

- State-of-the-art PC technology (e.g. Intel Core 2 Duo and Extended Memory 64 (EM64T) processor technology)
- High-level performance (e.g. Intel 945GM Express Chipset, DDR2 memory supporting dual-channel technology)
- High data transfer rates (e.g. with Serial ATA hard disks, dual Gbit Ethernet)

Benefits (continued)

Reduction in standstill times thanks to high system availability

- Assured 24-hour operation (high MTBF, speed-controlled fan)
- Efficient self-diagnostics (status display for Ethernet and PROFIBUS; alarm display for fan, temperature, watchdog and hard disks in RAID1 configuration, SIMATIC PC DiagMonitor)
- High degree of data security thanks to mirror drive system, optionally in "hot swap" frames
- Service-friendly design (modifications, servicing)

Cost reductions through high investment security

- Long-term platform with embedded Intel components
- Availability for at least 2.5 years, guaranteed availability of component spare parts for 5 years
- System-tested with SIMATIC components
- Certification for global marketing (cULus)
- Support for legacy interfaces (PS/2, COM, LPT)
- Installation compatible for many device generations
- Global service and support

Minimization of costs through time savings for commissioning, operation and servicing

- Preinstalled and activated operating system
- Fast restoration of the delivery status of the HDD thanks to restore DVD
- Low noise output thanks to controlled fan
- Universal implementation as an industrial workstation or server
- PROFIBUS or PROFINET interface and RAID1 controller onboard (optional)
- 2 x LAN 10/100/1000 Mbit/s connections (Gbit LAN with teaming capability)
- Fast identification and replacement of the hard disk in the event of a fault (e.g. front LEDs for HDD alarm in RAID1 configuration)
- Flexible applications in many different positions with telescopic rails or as tower industrial PC
- High degree of flexibility and expandability thanks to integrated interfaces and up to 11 slots (PCI and PCI-Express)

Application

The SIMATIC Rack PC 847B provides machine, systems and control cabinet engineering companies with a high-performance and highly flexible 19" rack PC platform for machine-oriented industrial applications:

- Measuring, open-loop control and closed-loop control of process and machine data
- Visualization of manufacturing sequences
- Computing and processing of images within the scope of quality inspections
- Data acquisition and management

The SIMATIC Rack PC 847B is certified to CE for industrial applications.

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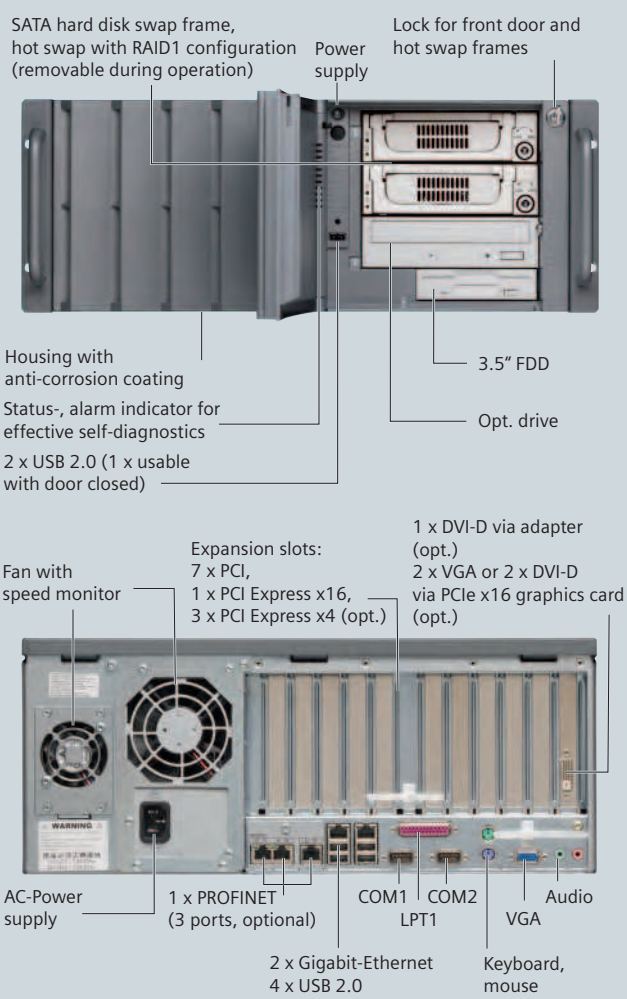
Design

Basic design

- All-metal 19" installation housing (4 HU) for high degree of mechanical ruggedness (vibration/shock) and high electromagnetic compatibility; prepared for mounting of telescopic rails
- Horizontal and vertical installation is possible, can be used as an industrial tower PC by using the appropriate kit.
- Lockable front door for authorized access (access protection) to front swap media, command elements (reset, power), USB interface, front fan and dust filter
- Card retainer for reliable operation of PC modules in the event of vibrations and shocks
- Opening of the enclosure cover with only one screw and replacement of PC components (e.g. PC cards or HDD) with a single tool
- Replacement of front fan and dust filter without the need for tools
- Dust protection by means of overpressure ventilation using bearing seated front fan through filter
- 6 slots for installing drives
  - On the front: 1 x 3.5"; 3 x 5.25"
  - Internal: 2 x 3.5" (in the optional vibration-damping drive bracket or in the fixed hard disk support)
- Graphics on-board on the PCI-Express bus, Intel GMA950 integrated in chip set, up to 2048 x 1536 pixels, 75 Hz, 16 bit colors
- Interfaces:
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45, with team working capability)
  - 4 x USB 2.0 at the rear, 2 x USB 2.0 at the front (one of which can be used when door is closed)
  - 2 x PS/2, COM1, COM2, LPT1, VGA
  - Audio: Line Out, Mic
- 11 spare slots for expansions (all long):
  - 7 x PCI long
  - 1 x PCI-Express x16 (PEG)
  - 3 x PCI-Express x4
- Power supply: 110/230 V AC, 50/60 Hz, cable of country-specific design

For design variations of the SIMATIC PC see "ordering data".

SIMATIC Rack PC 847B: Connections and Expansions


SATA hard disk swap frame, hot swap with RAID1 configuration (removable during operation)
Power supply
Lock for front door and hot swap frames
Housing with anti-corrosion coating
Status-, alarm indicator for effective self-diagnostics
2 x USB 2.0 (1 x usable with door closed)
3.5" FDD
Opt. drive
Fan with speed monitor
Expansion slots: 7 x PCI, 1 x PCI Express x16, 3 x PCI Express x4 (opt.)
1 x DVI-D via adapter (opt.)
2 x VGA or 2 x DVI-D via PCIe x16 graphics card (opt.)
AC-Power supply
1 x PROFINET (3 ports, optional)
COM1
COM2
LPT1
VGA
Audio
2 x Gigabit-Ethernet
4 x USB 2.0
Keyboard, mouse

A Tower Kit can be ordered as an accessory for converting the computer into an **Industrial Tower PC**.
See *"Ordering data for accessories"*.

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SIMATIC Rack PC 847B

Ordering data

Order No.

Configuration [1]

SIMATIC Rack PC 847B Z **6ES7 643-8** ■■■■ - ■■■■

Interfaces: 2 x 10/100/1000 Mbit/s Ethernet (RJ45); 1 x graphic (VGA); 2 x COM; 1 x LPT; 2 x PS/2; 4 x USB 2.0 on rear, 2 x USB 2.0 on front; audio; temperature and fan monitoring, watchdog; slots: 6 (3 x 5.25", 1 x 3.5" externally accessible; 2 x 3.5" internally accessible)

Processor, motherboard:

- Celeron M 440 (1.86 GHz, 1 MB L2 cache), motherboard without fieldbus — **A**
- Celeron M 440 (1.86 GHz, 1 MB L2 cache), motherboard with PROFIBUS/MPI — **B**
- Celeron M 440 (1.86 GHz, 1 MB L2 cache), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [1) 2)] — **C**
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2 cache, EM64-T), motherboard without fieldbus — **G**
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2 cache, EM64-T), motherboard with PROFIBUS/MPI — **H**
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2 cache, EM64-T), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [1) 2)] — **J**
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2 cache, EM64-T), motherboard without fieldbus — **K**
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2 cache, EM64-T), motherboard with PROFIBUS/MPI — **L**
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2 cache, EM64-T), motherboard with PROFINET (3 x RJ45, CP 1616-compatible) [1) 2)] — **M**

Hard disks:

- 80 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — **A**
- 160 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — **B**
- 2 x 160 GB HDD SATA; 0.5 g vibration, 5 g shock, internal — **C**
- RAID1 (2 x 160 GB HDD SATA, mirror disks); 0.5 g vibration, 5 g shock, internal — **D**
- 80 GB HDD SATA; 0.3 g vibration, 3 g shock, internal — **G**
- 80 GB HDD SATA in swap frame; front — **H**
- 160 GB HDD SATA in swap frame; front — **K**
- 2 x 160 GB HDD SATA in swap frame; front — **M**
- RAID1 (2 x 160 GB HDD SATA) in swap frame, hot-swap; front — **P**

Memory configuration:

- 256 MB DDR2 SDRAM (1 x 256 MB), single channel — **0**
- 512 MB DDR2 SDRAM (1 x 512 MB), single channel — **1**
- 1 GB DDR2 SDRAM (1 x 1 GB), single channel — **2**

Configuration (continued)

SIMATIC Rack PC 847B Z **6ES7 643-8** ■■■ - ■■■

Memory configuration:

- 2 GB DDR2 SDRAM (2 x 1 GB), dual channel — **3**
- 4 GB DDR2 SDRAM (2 x 2 GB), dual channel — **4**

Swap media:

- FDD — **0**
- DVD-ROM, without FDD — **1**
- DVD+/-RW, without FDD — **2**
- DVD-ROM and FDD — **3**
- DVD+/-RW and FDD — **4**

Bus module / hardware expansion

- Bus module, 8 slots: 7 x PCI, 1 x PCIe x16; without HW expansions — **0**
- Bus module, 8 slots: 7 x PCI, 1 x PCIe x16 assigned; + DVI extension adapter (DVI) — **1**
- Bus module, 8 slots: 7 x PCI, 1 x PCIe x16 assigned; + graphics card PCIe x16, DH (2 x DVI or 2 x VGA) — **2**
- Bus module, 11 slots: 7 x PCI, 1 x PCIe x16, 3 x PCIe x4; without HW expansions — **3**
- Bus module, 11 slots: 7 x PCI, 1 x PCIe x16 assigned, 3 x PCIe x4; + DVI extension adapter (DVI) — **4**
- Bus module, 11 slots: 7 x PCI, 1 x PCIe x16 assigned, 3 x PCIe x4; + graphics card PCIe x16, DH (2 x DVI or 2 x VGA) — **5**

Operating system:

- Windows 2000 Professional, MUI (Eng, Fr, Ger, It, Sp), SP4 — **A**
- Windows XP Professional, MUI (Eng, Fr, Ger, It, Sp), SP2, SP3 enclosed — **B**
- Windows Vista Ultimate, MUI (Eng, Fr, Ger, It, Sp), SP1 enclosed (min. 512 MB memory) — **C**
- Windows Server 2003 Standard Edition incl. 5 Client, MUI (Eng, Fr, Ger, It, Sp), SP1, SP2 enclosed — **M**
- Without operating system — **X**

Software expansion:

- SIMATIC PC DiagMonitor enclosed) — **A**
- SIMATIC PC Image Creator Software enclosed [1)3)] — **B**
- SIMATIC PC DiagMonitor [3)]& Image Creator [1)3)] Software enclosed — **C**
- Without software — **X**

Power supply, country-specific cable:

- 110/230 V industrial power supply with Namur; European power cable — **0**
- 110/230 V industrial power supply with Namur; UK power cable — **1**
- 110/230 V industrial power supply with Namur; power cable for Switzerland — **2**
- 110/230 V industrial power supply with Namur; USA power cable — **3**
- 110/230 V industrial power supply with Namur; power cable for Italy — **4**
- 110/230 V industrial power supply with Namur; power cable for China — **5**

Z) Subject to export regulations: AL: N and ECCN: 5D992

1) Not together with Windows 2003 Server

2) Not together with Windows 2000

3) Not together with Windows Vista Ultimate

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Ordering data

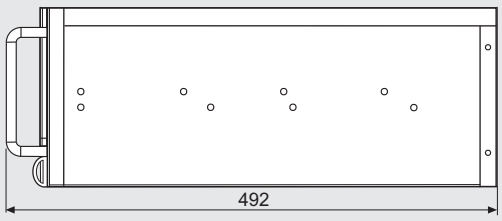
		Order No.
Accessories		
Memory expansion		
• 256 MB DDR2 667 SDRAM, SO DIMM	A	**6ES7 648-2AG20-0HA0**
• 512 MB DDR2 677 SDRAM, SO DIMM	A	**6ES7 648-2AG30-0HA0**
• 1 GB DDR2 667 SDRAM, SO DIMM	A	**6ES7 648-2AG40-0HA0**
• 2 GB DDR2 667 SDRAM, SO DIMM	A	**6ES7 648-2AG50-0HA0**
Hard disk slide-in unit for swap frame SIMATIC PC accessories, slide-in HDD swap frame for 3.5" hard disk, serial ATA (without hard disk)		**6ES7 648-0EB00-1BA0**
Filter mats For Rack PC 847B Packing unit 10 units		**A5E01064980**
Power cable, straight, 3 m long		
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden		**6ES7 900-0AA00-0XA0**
• United Kingdom		**6ES7 900-0BA00-0XA0**
• Switzerland		**6ES7 900-0CA00-0XA0**
• USA		**6ES7 900-0DA00-0XA0**
• Italy		**6ES7 900-0EA00-0XA0**
• China		**6ES7 900-0FA00-0XA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

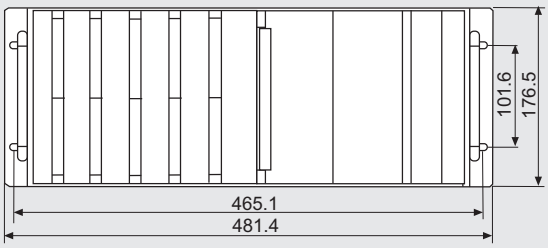
		Order No.
Accessories (continued)		
Tower Kit for converting the computer into an industrial tower PC		**6ES7 648-1AA00-0XD0**
36 month service option for SIMATIC Rack PC and Box PC [1]		**A5E00510072**
Expansion components		
SIMATIC PC keyboard German/international		
• USB connection		**6ES7 648-0CB00-0YA0**
• incl. 4-port USB hub	A	**6ES7648-0CD00-0YA0**
USB mouse		
• (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
SIMATIC USB FlashDrive	A	
2 GB, USB 2.0, metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
for Communication products see chapter 7		
for power supplies and DC UPS see page 3/83		
for RMOS real-time operating system see page 3/66		
for expansion components see chapter 9		

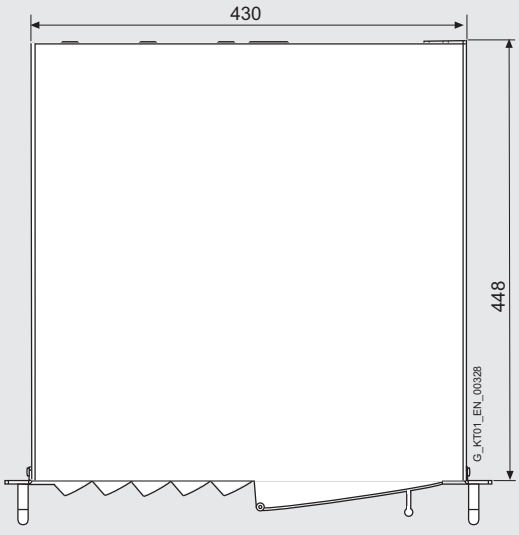
1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix. Chapter 10

Dimensions



Dimensions in mm





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Introduction

Overview

SIMATIC Box PCs provide mechanical engineers, plant engineers and control cabinet makers with particularly rugged industrial PC systems for use in powerful yet compact applications.

Three device classes are available for various requirements:

- ***SIMATIC Microbox PC 427B*** – ultra-compact and maintenance-free: the flexible embedded industrial PC
- ***SIMATIC Box PC 627B*** – maximum performance in the most restricted space / with Intel Core 2 Duo technology
- ***SIMATIC Box PC 827B*** – maximum performance with high flexibility / with Intel Core 2 Duo technology

Shared industrial functionality

- Extremely compact
- Certification for global marketing
- System-tested with SIMATIC components
- High vibration/shock load during operation
- Wide operational temperature range
- Designed for 24-hour continuous operation
- Integrated PROFIBUS and PROFIBUS/MPI interface (optional)
- Integrated parameterizable monitoring functions (temperature, fan, watchdog)
- High service friendliness
- Operating system preinstalled and activated for fast startup
- Motherboard developed and manufactured by Siemens
- Availability for 3 to 5 years
- Repairs and spare parts service for 5 years
- High continuity of the components/design
- Installation and software compatible with predecessor model
- Long-term availability of PC components from the Intel embedded line

SIMATIC Microbox PC 427B – ultra-compact and maintenance-free: the flexible embedded industrial PC

- Operation without fan thanks to CompactFlash
- High performance with highly compact design
- Optimized for embedded applications
- Expandable with as many as 3 PC/104-Plus or PCI-104 I/O cards

SIMATIC Box PC 627B – maximum performance in the most restricted space with Intel Core 2 Duo technology

- Maximum system performance for complex measuring, control and visualization tasks through use of Intel Core 2 Duo processors
- Highly compact design for space-saving and flexible installation as result of:
  - Compact housing design (volume 6 liters)
  - Flexible installation with mounting brackets or portrait assembly kit
- RAID1 controller onboard
- Rugged design for direct installation in the machine
- Maximum processor performance up to ambient temperature of 55 °C
- High shock/vibration resistance in all possible mounting positions
- CompactFlash Drives
- High system availability
- Battery-backed SRAM as memory for WinAC data (with 24 V DC industrial power supply)
- 2 x 7-segment display and 2 signal LEDs (freely programmable)

SIMATIC Box PC 827B – maximum performance with high flexibility / with Intel Core 2 Duo technology

- Maximum system performance for complex measuring, control and visualization tasks through use of Intel Core 2 Duo processors
- Highly flexibility as result of:
  - 5 expansion slots and integral interfaces
  - Various installation possibilities with mounting brackets or portrait assembly kit
- RAID1 controller onboard
- Rugged design for direct installation in the machine
- Maximum processor performance up to ambient temperature of 55 °C
- High shock/vibration resistance in all possible mounting positions
- All interfaces on one side to allow optimum installation in control cabinet
- CompactFlash drives, accessible from the outside
- High system availability
- Battery-backed SRAM as memory for WinAC data (with 24 V DC industrial power supply)
- 2 x 7-segment display and 2 signal LEDs (freely programmable)

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Overview (continued)

	SIMATIC Microbox PC 427B	SIMATIC Box PC 627B	SIMATIC Box PC 827B
Design			
Rail or wall mounting	●	–	–
Wall or portrait mounting	–	●	●
General features			
Processor	• Intel Pentium M 1.4 GHz, 400 MHz FSB • Intel Celeron M 1 GHz, 400 MHz FSB, SLC • Intel Celeron M 900 MHz, 400 MHz FSB	• Intel Core 2 Duo T7400 2.16 GHz 667 MHz FSB, 4 MB SLC • Intel Core 2 Duo T5500 1.66 GHz, 677 MHz FSB, 2 MB SLC • Intel Celeron M 440 1.86 GHz, 533 MHz FSB, 1 MB SLC	• Intel Core 2 Duo T7400 2.16 GHz 667 MHz FSB, 4 MB SLC • Intel Core 2 Duo T5500,1.66 GHz, 677 MHz FSB, 2 MB SLC • Intel Celeron M 440 1.86 GHz, 533 MHz FSB, 1 MB SLC
Main memory	256 MB, expandable up to 2 GB	256 MB, expandable up to 4 GB	256 MB, expandable up to 4 GB
Static RAM	2 MB	–	–
Free slots for expansions	Up to 3 x PCI-104 Plus or PCI-104 (expansion rack)	2 x PCI or 1 x PCI-Express x4. 1 x PCI (175 mm / 265 mm)	4 x PCI (265 mm), 1 PCI-Express x4 (175 mm) or 2 x PCI-Express x4, 1 x PCI-Express x4 (175 mm), 2 x PCI (265 mm)
Graphics	onboard	onboard	onboard
Operating system			
• none	●	●	●
• Preinstalled supplied on Restore CD	• Windows XP Embedded, in conjunction with CF card > 512 MB or hard disk • Windows XP Professional Multi-Language; in conjunction with hard disk • Windows Vista Ultimate Multi-Language	• Windows 2000 Professional Multi-Language • Windows XP Professional Multi-Language • Windows XP Embedded English on 2 GB CompactFlash • Windows Vista Ultimate Multi-Language	• Windows 2000 Professional Multi-Language • Windows XP Professional Multi-Language • Windows XP Embedded English on 2 GB CompactFlash • Windows Vista Ultimate Multi-Language
• Order separately	RMOS3 V3.50	RMOS3 V3.50	RMOS3 V3.50
• Project-specific on request	Linux[1)] other	Linux[1)] other	Linux[1)] other
Interfaces			
PROFINET onboard	3 Port switch RJ45 (CP1616 compatible), optional	3 Port switch RJ45 (CP1616 compatible), optional	3 Port switch RJ45 (CP1616 compatible), optional
PROFIBUS / MPI	12 Mbit/s (CP 5611-compatible), optional	12 Mbit/s (CP 5611-compatible), optional	12 Mbit/s (CP 5611-compatible), optional
Ethernet	2 x 10/100/1000 Mbits	2 x 10/100/1000 Mbits	2 x 10/100/1000 Mbits
USB 2.0 (high current)	4 x	4 x	4 x
VGA, LVDS, DVI	1 x DVI-I (DVI and VGA)	1 x DVI-I	1 x DVI-I
Drives			
Hard disks (SATA)	1 x 2.5" (optional)	1 x 3.5", 2 x 2.5", 2 x 2.5"/RAID1	1 x 3.5", 2 x 2.5, 2 x 2.5"/RAID1
Flash Drive	●	●	●
• SIMATIC PC CompactFlash	Optional, accessible from outside: • 256 MB and 512 MB • 2 GB, internal and 1 GB, internal not accessible: 1 GB and 2 GB	• No. 1, at front, accessible from outside • No. 2, internal, instead of HDD, ODD	accessible from outside: • Nr. 1 • Nr. 2, instead of HDD, ODD
Optical drives			
• DVD+/-RW	–	optional	optional
Environmental conditions			
Vibration/shock load during operation	1 g / 15 g (with Flash Drive)	1 g / 5 g	1 g / 5 g
Ambient temperature during operation	With maximum configuration: 0 ... 55 °C (with Flash Drive) 5 ... 40 °C (with Festplatte)	With maximum configuration: 5 ... 50/55 °C (with 20/10 W load on PCI/PCI-Express bus) 5 ... 45 °C	With maximum configuration: 5 ... 50/55 °C (with 20/10 W load on PCI/PCI-Express bus) 5 ... 45 °C

● Available
– Not available

1) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX" (LINUX is a trademark of Linus Torvald); see *http://www.siemens.de/simatic-pc/geeignet-fuer-linux*

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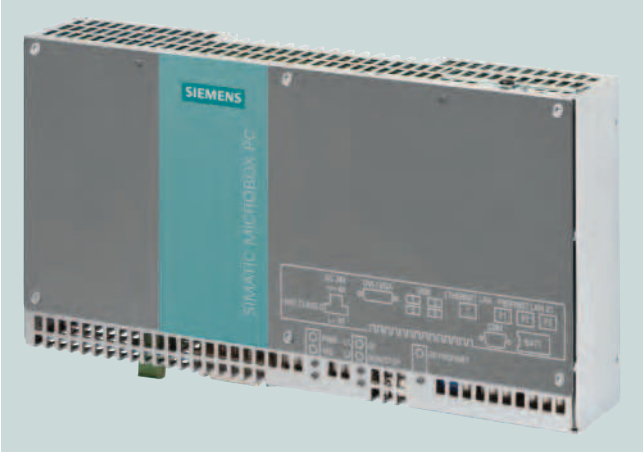
SIMATIC Microbox PC 427B

Overview



The SIMATIC Microbox PC 427B is a rugged embedded industrial PC for use at the machine:

- Ultra-compact
  (262 mm wide, 134 mm high, depth from 47 mm)
- Maintenance-free since e.g. no rotating parts
- Optimized, flexible embedded industrial PC

Benefits

High performance with highly compact design

- Pentium M technology up to 1.4 GHz, DDR2 memory technology up to 2 GB
- Performance-enhanced graphic

Optimized for embedded applications

- 2 MB buffered SRAM, of which 128 KB can be written within the buffer time
- Optimization of headless operation

Cost reductions through high investment security

- Long-term platform with embedded Intel components
- Availability of 3 to 5 years, guaranteed availability of spare parts for 5 years
- System-tested SIMATIC software packages

Reduction in standstill times thanks to high system availability

- Completely maintenance-free 24-hour/365-day operation since no fan is installed
- Efficient self-diagnostics (SIMATIC PC DiagMonitor, SOM, status LED)
- Data backup solutions (preventative data backup)

Reduced costs through high industrial functionality

- Excellent industrial compatibility, even when subjected to extreme vibration and shock
- High degree of industrial compatibility at high temperatures because the enclosure is optimized for air cooling
- Service-friendly hardware configuration (Reset button is externally accessible, components can be replaced on site)
- Expandable with as many as 3 PC/104-Plus or PCI-104 I/O cards
- Efficient self-diagnostics (SIMATIC PC DiagMonitor, BIOS manager, status LED)
- Integral component of Totally Integrated Automation (TIA) thanks to integral PROFINET and PROFIBUS/MPI interfaces

Application

The SIMATIC Microbox PC 427B provides mechanical engineers, plant engineers, and switch cabinet manufacturers with a high performance, compact PC platform for application at the machine or in the process, and applications in the industrial environment for:

- Measuring, open-loop control and closed-loop control of process and machine data (e.g. test beds)
- Operating and visualization tasks with separate display/monitor solutions (e.g. information terminals, large-scale displays)
- Communication tasks as gateway or server

The application spectrum of the Microbox PC 427B ranges from automation computers fully integrated in TIA with WinAC for example, through C/C++-based automation solutions with the well-proven SICOMP RMOS3 operating system with real-time and multi-tasking capability, to "standalone" applications in general IT use.

For software products that require Windows XP Professional, the combination of Windows XP Professional multi-language is available preinstalled on hard disk.

The Microbox PC 427B has CE certification for use in the industrial sector as well as in residential and commercial areas, and small businesses. In addition to industrial applications, it can also be used in building services automation or in facilities open to the public. The device also has the most important marine approvals, provided that configurations with CompactFlash memories are used.

Due to the fan-free design and use of SIMATIC PC CompactFlash memories, there are no rotating parts and the system availability is increased. It is possible to install the CompactFlash memory either accessible externally so that it can be swapped, or internally so that it cannot be easily accessed externally.

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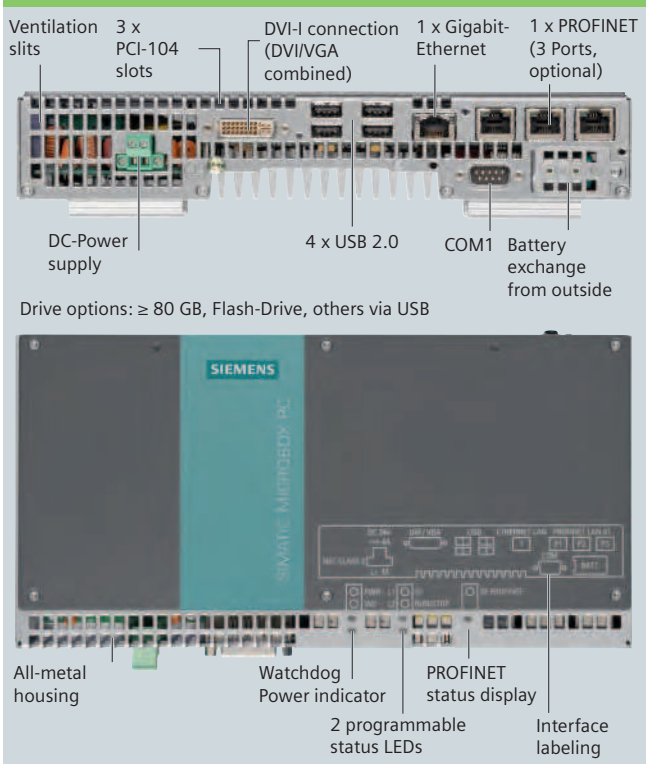
Design

Basic design

- All-metal casing, resistant to vibrations and shocks, also with high electromagnetic compatibility
- Graphics onboard, on AGP bus: DVI-I: VGA (analog) and DVI (digital)
  - CRT resolution:
    Up to 1600 x 1200 pixels / true color / 60 to 120 Hz
  - DVI resolution:
    Up to 1600 x 1200 pixels / true color
- Optical drives can be connected externally via USB interface, not included in scope of supply
- Interfaces (accessible from one side):
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
  - 4 x USB V2.0
  - 1 x COM1 (RS232)
- Free slots (when using the expansion rack):
  - Up to 3 x PC/104-Plus or PCI-104 I/O cards
- Power supply: 24 V DC (20.4 ... 28.8 V)

SIMATIC Microbox PC 427B: Connections and Expansions



The SIMATIC Microbox PC 427B can be expanded with modularity and flexibility with central I/O. For this purpose up to 4 expansion frames are mounted.

For more information see "Expansion components".

For design variations of the SIMATIC PC see "ordering data".

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SIMATIC Microbox PC 427B

Ordering data

Order No. 6ES7 647-7A ■■0 - ■■■0

Configuration [1]

SIMATIC Microbox PC 427B Z
Intel Celeron M 900 MHz, 400 MHz FSB, SLC 0 KB; 256 MB DDR2 RAM (1 x 256 MB); without HD; without flash drive; without operating system; 24 V DC industrial power supply

Processor:
- Intel Celeron M 900 MHz, 400 MHz FSB — A
- Intel Celeron M 900 MHz, 400 MHz FSB, PROFIBUS DP 12 — B
- Celeron M 900 MHz, 400 MHz FSB, CAN — D
- Intel Celeron M 1 GHz, 400 MHz FSB, SLC 512 KB — E
- Intel Celeron M 1 GHz, 400 MHz FSB, SLC 512 KB, PROFIBUS DP 12 — F
- Intel Celeron M 1 GHz, 400 MHz FSB, SLC 512 KB, PROFINET — G
- Intel Pentium M 1.4 GHz, 400 MHz FSB, SLC 2 MB — J
- Intel Pentium M 1.4 GHz, 400 MHz FSB, SLC 2 MB, PROFIBUS DP 12 — K
- Intel Pentium M 1.4 GHz, 400 MHz FSB, SLC 2 MB, PROFINET — L

Memory configuration:
- 256 MB DDR2 533, SODIMM — 1
- 512 MB DDR2 533, SODIMM — 2
- 1 GB DDR2 533, SODIMM — 3
- 2 GB DDR2 667, SODIMM — 4

Expansion (HW):
- No expansion (HW) — 0
- Second RS232 interface in expansion rack [4] — 1

Drives:
- without HD, without CompactFlash — X
- 80 GB HDD SATA — A
- 256 MB CompactFlash swappable (accessible) — M
- 2 GB CompactFlash swappable (accessible) — Q
- 4 GB CommpactFlash swappable (accessible) — R
- 256 MB CompactFlash DIAG swappable (accessible) — S
- 2 GB CompactFlash DIAG swappable (accessible) — T
- 4 GB CompactFlash DIAG swappable (accessible) — U
- 8 GB CompactFlash DIAG swappable (accessible) — V
- 2 GB CompactFlash internal (not accessible) — G
- 4 GB CompactFlash swappable (not accessible) — H
- 2 GB CompactFlash DIAG internal (not accessible) — J
- 4 GB CompactFlash DIAG internal (not accessible) — K
- 8 GB CompactFlash DIAG intern (not accessible) — L

A) Subject to export regulations: AL: N and ECCN: EAR99H
B) Subject to export regulations: AL: N and ECCN: EAR99S
Z) Subject to export regulations: AL: N and ECCN: 5D992

Configuration [1]

SIMATIC Microbox PC 427B Z — 6ES7 647-7A ■■0 - ■■■0

Operating system: [3]
- Without operating system — X
- Windows XP Embedded pre-installed — A
- Windows XP Professional MUI — B
- Windows Vista Ultimate MUI (Eng, Ger, Fr, It, Sp) — C

Accessories

256 MB, DDR2, SODIMM	A	**6ES7648-2AG20-0GA0**
512 MB, DDR2, SODIMM	A	**6ES7648-2AG30-0GA0**
1 GB, DDR2, SODIMM	A	**6ES7648-2AG40-0GA0**
2 GB, DDR2, SODIMM	A	**6ES7648-2AG50-0HA0**
Expansion kit PC/104 For integration of PC/104 modules in the SIMATIC Microbox PC 427B Packing unit contains 6 expansion racks	A	**6AG4 070-0BA00-0XA0**
Starter package Microbox PC 427B 1.0 GHz Celeron M incl. 24 V power supply, SIMATIC PC USB Flash drive, Windows XP Embedded, expansion rack	E	**6ES7 647-7AF25-0AA0**
SIMATIC PC adapter cable, DVI-I compliant with VGA, 250 mm		**6ES7 648-3AB00-0XA0**
Portrait installation kit Interfaces to the front	A	**6ES7648-1AA20-0YB0**
36 month service option for SIMATIC Rack PC and Box PC [2]		**A5E00510072**

Expansion components

SIMATIC PC keyboard German/international		
• USB port		**6ES7 648-0CB00-0YA0**
• incl. 4-port USB hub	A	**6ES7648-0CD00-0YA0**
USB mouse (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
SIMATIC PC CompactFlash with diagnostics	B	
• 256 MB	A	**6ES7 648-2BF02-0XC0**
• 2 GB	A	**6ES7 648-2BF02-0XF0**
• 4 GB	A	**6ES7648-2BF02-0XG0**
• 8 GB	A	**6ES7648-2BF02-0XH0**
SIMATIC PC USB-FlashDrive 2 GB, USB 2.0, metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**

for communication products
see page 7/1

for power supplies and DC-UPS
see page 3/83

for RMOS3 real-time operating system
see page 3/66

for PC I/O modules
see page 3/75

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3
1) The SIMATIC PC Online Configurator offers a current overview: www.siemens.com/ipc-configurator
2) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix. Chapter 10
3) XP Embedded von 2GB CompactFlash oder Festplatte. XP Professional oder Vista nur mit Festplatte.
4) only for versions without fieldbus, with CAN or with PROFIBUS

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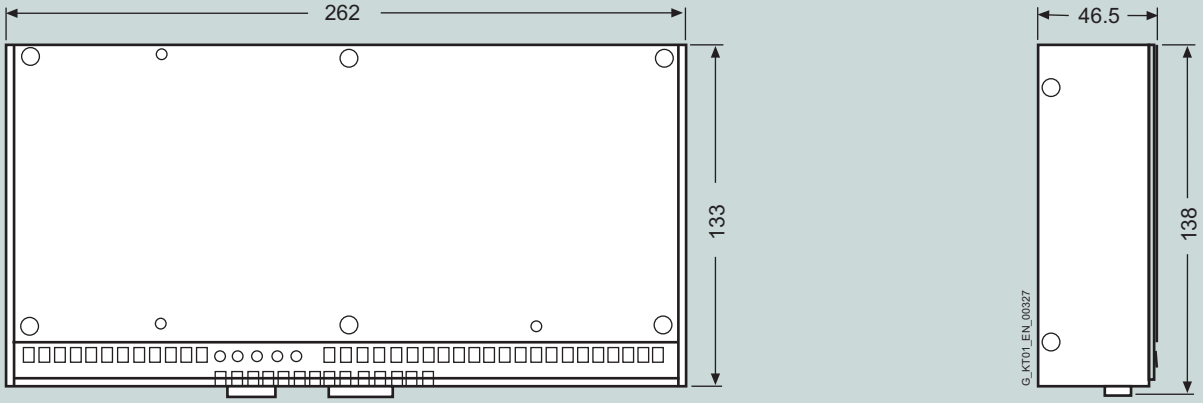
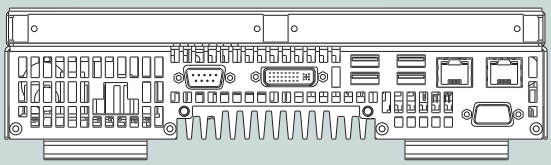
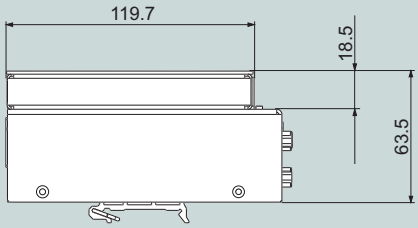
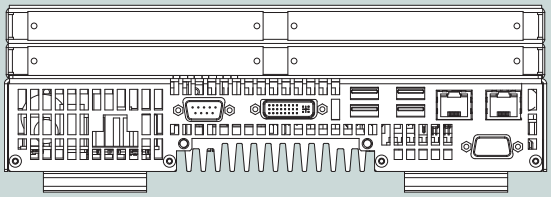
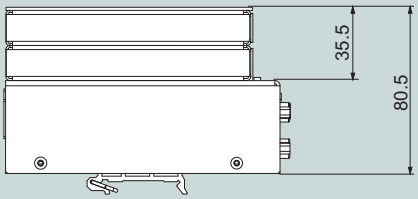
Dimensions

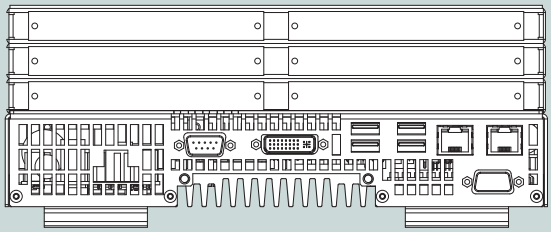


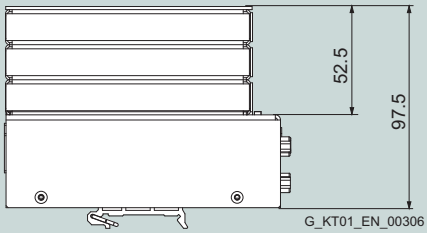












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SIMATIC Box PC 627B

Overview

The SIMATIC Box PC 627B is optimized for high-performance PC applications and for installation direct at the machine:

It offers:

- Maximum performance in
- the smallest space
- Intel Core 2 Duo technology

Benefits

Maximum system performance for complex measuring, control and visualization tasks

- Intel processors: Core 2 Duo or Celeron M
- Intel chipset: 945GM Express + ICH7R
- Intel graphic media accelerator GMA 950
- PCI-Express technology
- DDR2 667 memory technology up to 4 MB
- SATA hard disks up to 160 MB

Highly compact design for space-saving and flexible installation

- Compact housing design (volume 6 liters)
- Flexible installation in many different positions with mounting brackets or portrait installation kit
- On-board: PROFINET or PROFIBUS interface and RAID1 controller (optional)
- 2 x PCI or optionally 1 x PCI-Express x4 and 1 x PCI
- 2 LAN 10/100/1000 Mbit/s connections (Gbit LAN with teaming capability)
- 4 USB ports 2.0 (high current)

Rugged design for direct installation in the machine

- Maximum processor performance up to ambient temperature of 55 °C
- High shock/vibration resistance in all possible mounting positions
- High EMC for safe operation
- 2 Flash drives (optional)

High system availability, fast startup, maintenance and servicing

- High degree of data security thanks to mirror disk system (optional)
- Battery-backed SRAM as memory for WinAC data (with 24 V DC industrial power supplies)
- 2 x 7-segment display, 2 signal LEDS freely programmable
- CMOS battery compartment accessible from outside
- Operating system preinstalled and activated, recovery and restore CDs provide help in event of system failure
- Global service and support

High degree of investment protection

- Long-term platform with embedded Intel components
- Innovation cycle 3-5 years, guaranteed availability of spare parts for 5 years
- System-tested with SIMATIC components
- Certification for global marketing (cULus)
- Installation compatible for all device generations, software compatible with predecessor model

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Application

The SIMATIC Box PC 627B provides mechanical engineers, plant engineers, and control cabinet makers with a high-performance, compact PC platform for application at the machine or in the industrial environment for:

- Measuring and controlling of process and machine data (e.g. automated washing systems, robot controls)
- Operating and visualization tasks with separate display/monitor solutions (e.g. information terminals, large-scale displays in automotive production)
- Data acquisition and processing (e.g. production data acquisition, distributed process control)
- Motion Control

The SIMATIC Box PC 627B has CE certification for use in the industrial sector as well as in residential and commercial areas, and small businesses. In addition to industrial applications, it can also be used in building services automation or in facilities open to the public.

It can also be integrated in confined spaces thanks to the low mounting depth of 100 mm (80 mm without CD drive).

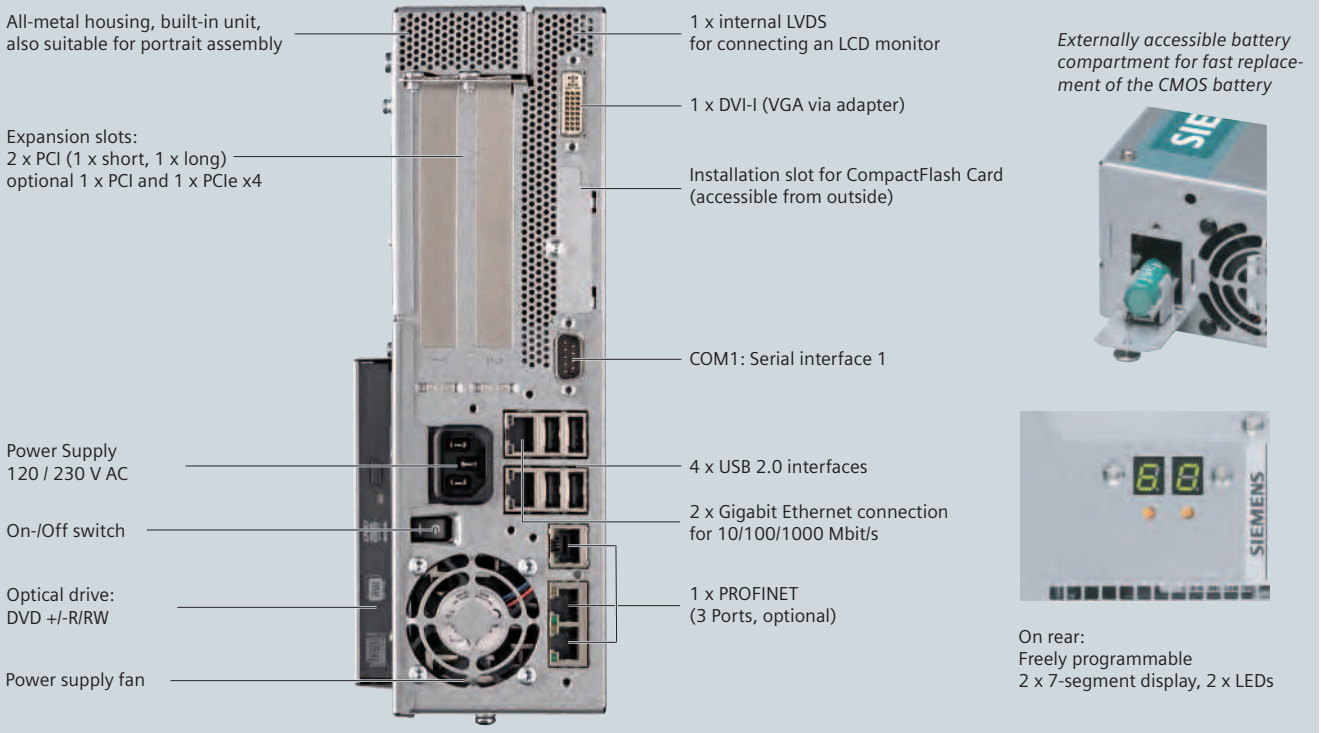
Aufbau

Basic design

- Rugged metal installation housing, resistant to vibrations and shocks, with high electromagnetic compatibility
- 2 free PC expansion slots
- Card retainer for reliable operation of PC modules in the event of vibrations and shocks
- Graphics onboard 1600 x 1200, 85 Hz, 32-bit colors
- Interfaces (accessible from one side):
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45)
  - DVI-I graphics interface
  - 4 x USB 2.0
  - 1 x serial (COM1)
- Two 7-segment displays and two LEDs for status indication (freely programmable)
- Flash drive: SIMATIC PC CompactFlash (can be plugged in from the outside)

For design variations of the SIMATIC PC see "ordering data".

SIMATIC Box PC 627B: Connections and Expansions


All-metal housing, built-in unit, also suitable for portrait assembly
Expansion slots: 2 x PCI (1 x short, 1 x long) optional 1 x PCI and 1 x PCIe x4
Power Supply 120 / 230 V AC
On-/Off switch
Optical drive: DVD +/-R/RW
Power supply fan
1 x internal LVDS for connecting an LCD monitor
1 x DVI-I (VGA via adapter)
Installation slot for CompactFlash Card (accessible from outside)
COM1: Serial interface 1
4 x USB 2.0 interfaces
2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s
1 x PROFINET (3 Ports, optional)
Externally accessible battery compartment for fast replacement of the CMOS battery
On rear: Freely programmable 2 x 7-segment display, 2 x LEDs

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SIMATIC Box PC 627B

Ordering data

Order No.

Configuration [1]

SIMATIC Box PC 627B Z **6ES7 647-6B ■■■ - ■■■■**

Graphics on-board, 128 MB dyn. shared memory; 2 x 10/100/1000 Mbit/s Ethernet RJ45; 4 x USB V2.0 (high current); 1 x serial (COM1), RAID controller on-board; CompactFlash drive No. 1 at front (without CF); watchdog, temp./fan monitoring

Processors:

- Celeron M 440 (1.86 GHz, 1MB L2, 533 MHz FSB) — A
- Celeron M 440 (1.86 GHz, 1 MB L2, 533 MHz FSB); PROFIBUS/MPI; 2 MB battery-backed SRAM — B
- Celeron M 440 (1.86 GHz, 1 MB L2, 533 MHz FSB); PROFINET (3 x RJ45, CP1616 compatible); 2 MB battery-backed SRAM — C
- Core 2 Duo T5500 (1.66 GHz, 2MB L2, EM64-T, 667 MHz FSB) — D
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2, EM64-T); PROFIBUS/MPI; 2 MB gepuffertes SRAM — E
- Core 2 Duo T7400 (1,66 GHz, 2 MB L2, EM64-T); PROFINET (3 Port switch RJ45, CP1616 kompatibel); 2 MB battery-backed SRAM; — F
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2, EM64-T, 667 MHz FSB) — G
- Core 2 Duo T7400 (2.16 GHz, 4 MB SLC, EM64-T, 667 MHz FSB); PROFIBUS/MPI; 2 MB battery-backed SRAM; — H
- Core 2 Duo T7400 (2.16 GHz, 4 MB SLC, EM64-T, 667 MHz FSB); PROFINET (3 Port switch RJ45, CP1616 compatible); 2 MB battery-backed SRAM; — J

Memory configuration:

- 256 MB DDR2 667 SODIMM — 0
- 512 MB DDR2 667 SODIMM — 1
- 1 GB DDR2 667 SODIMM — 2
- 2 GB DDR2 667 SODIMM — 3
- 3 GB DDR2 667 SODIMM — 4
- 4 GB DDR2 667 SODIMM — 5

Country-specific version/power supply:

- 110/230 V AC industrial power supply with Namur; European power cable — 0
- 110/230 V AC industrial power supply Namur; UK power cable — 1
- 110/230 V AC industrial power supply Namur; power cable for Switzerland — 2
- 110/230 V AC industrial power supply Namur; US power cable — 3
- 110/230 V AC industrial power supply Namur; Italian power cable — 4
- 110/230 V AC industrial power supply Namur; Chinese power cable — 5
- 24 V DC industrial power supply — 6

Order No.

Configuration (continued)

SIMATIC Box PC 627B Z **6ES7 647-6B ■■■ - ■■■■**

PC slots:

- 2 x PCI free — 0
- 1 x PCI, 1 x PCIe (x4) free — 1
- PCI interface card with COM2+LPT (1 PCI free) — 4
- PCI interface card with COM2+LPT (1 PCIe x4 free) — 5

Drives:

- 80 GB HDD SATA — A
- 80 GB HDD SATA + DVD+/-RW — B
- 160 GB HDD SATA — C
- 160 GB HDD SATA + DVD+/-RW — D
- 2 x 80 GB SATA (2.5") — E
- 2 x 80 GB SATA (2.5") + DVD+/-RW — F
- RAID1 2 x 80 GB SATA (2.5") — G
- RAID1 2 x 80 GB SATA (2.5") + DVD+/-RW — H
- CompactFlash drive No. 2 installed (instead of HDD, ODD, without CF) — W
- without drives — X

Operating system [2]:

- Windows 2000 Prof. multi-language SP4 (Eng, Fr, Ger, It, Sp) — A
- Windows XP Prof. multi-language SP2 (Eng, Fr, Ger, It, Sp) — B
- Windows Vista Ultimate Multi-Language (Eng, Ger, Fr, It, Sp) + at least 512 MB memory — C
- Windows XP Embedded (SP2) English on 2 GB CompactFlash (at least 512 MB memory, no RAID1) — F
- without operating system — X

Expansion:

- No expansion (software) — 0
- SIMATIC PC DiagMonitor software included — 1
- SIMATIC PC Image Creator software included — 2
- SIMATIC PC DiagMonitor & Image Creator software included — 3

Accessories

Memory expansion	A	
• 256 MB, DDR2 677, SODIMM		**6ES7 648-2AG20-0HA0**
• 512 MB, DDR2 677, SODIMM		**6ES7 648-2AG30-0HA0**
• 1 GB, DDR2 677, SODIMM	A	**6ES7 648-2AG40-0HA0**
• 2 GB, DDR2 677, SODIMM	A	**6ES7 648-2AG50-0HA0**

1) The SIMATIC PC Online Configurator offers a current overview: www.siemens.com/ipc-configurator
2) Windows XP embedded: at least 512 MB; RAID1 option

A) Subject to export regulations: AL: N and ECCN: EAR99H
Z) Subject to export regulations: AL: N and ECCN: 5D992

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Ordering data

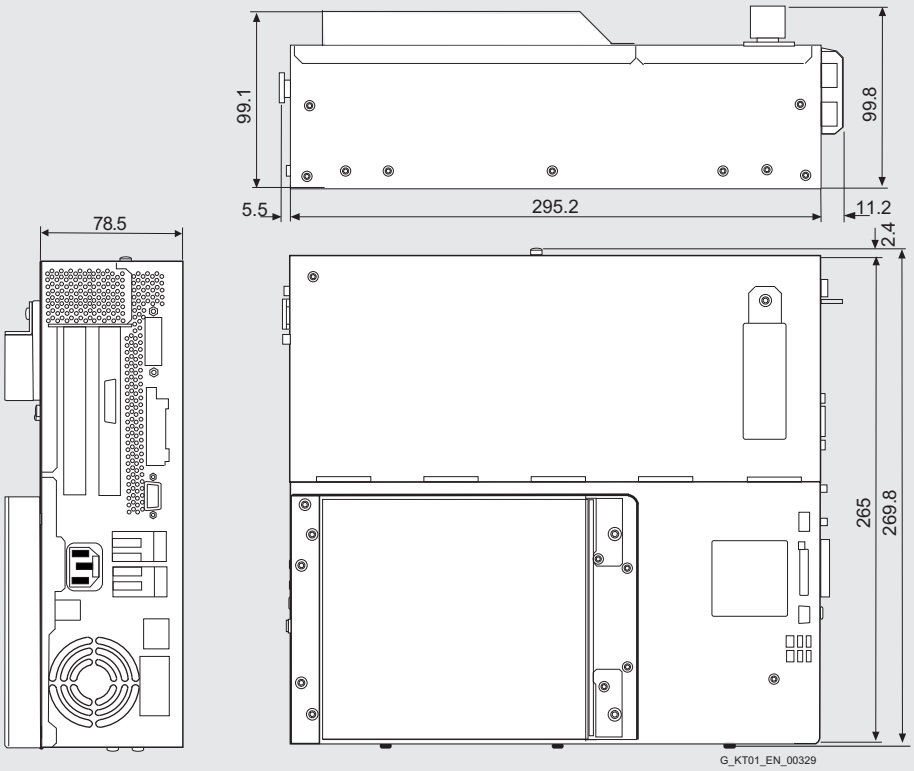
		Order No.
Accessories (continued)		
PCI expansion card with COM1 and LPT	A	**6ES7 648-2CA01-0AA0**
Graphic adapter cable, DVI-I compliant with VGA, 250 mm long;		**6ES7648-3AB00-0XA0**
Graphic adapter cable, DVI-I compliant with VGA and DVI-D, 250 mm long; (Y-cable)		**6ES7648-3AE00-0XA0**
Portrait installation kit		
• Interfaces upward/downward		**6ES7648-1AA10-0YA0**
• Interfaces to the front	A	**6ES7648-1AA10-0YB0**
Power cable, bent, 3 m long		
SIMATIC PC, power cable for 230 V AC, angled, 3 m for Box PC and Panel PC for		
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• USA		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
• China		**6ES7 900-1FA00-0XA0**
36 month service option for SIMATIC Rack PC and Box PC [1]		**A5E00510072**

		Order No.
Expansion components		
• **SIMATIC PC keyboard** German/international, USB port		**6ES7 648-0CB00-0YA0**
• **USB mouse** (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
CompactFlash card		
• 2 GB	A	**6ES7 648-2BF02-0XF0**
• 4 GB	A	**6ES7648-2BF02-0XG0**
SIMATIC USB Flash Drive 2 MB, USB 2.0, metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
for communication products see chapter 7		
for power supplies and DC-UPS see page 3/83		
for RMOS3 real-time operating system see page 3/66		

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix. Chapter 10

A) Subject to export regulations: AL: N and ECCN: EAR99H

Dimensions



Dimensions in mm

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SIMATIC Box PC 827B

Overview

The SIMATIC Box PC 827B is optimized for high-performance PC applications and for installation direct at the machine.

It offers:

- Maximum performance at
- high flexibility
- Intel Core 2 Duo technology

Benefits

Maximum system performance for complex measuring, control and visualization tasks

- Intel processorc: Core 2 Duo or Celeron M
- Intel chipset: 945GM Express + ICH7R
- Intel graphic media accelerator GMA 950
- PCI-Express technology
- DDR2 667 memory technology up to 4 MB
- SATA hard disks up to 160 MB

High flexibility and expandability

- Flexible installation in many different positions with mounting brackets or portrait installation kit
- On-board: PROFINET or PROFIBUS interface and RAID1 controller (optional)
- 4 x PCI and 1 x PCIe-Express (x4) or 2 x PCI and 3 x PCIe (x4)
- 2 LAN 10/100/1000 Mbits/s connections (Gbit LAN with teaming capability)
- 4 Hi-Speed USB-2.0 ports

Rugged design for direct installation in the machine

- Maximum processor performance up to ambient temperature of 55 °C
- High shock/vibration resistance in all possible mounting positions
- High EMC for safe operation
- 2 CompactFlash Drives, both accessible from outside (one of them optional)

High system availability and user friendliness

- All interfaces and control/display elements on one side to allow optimum installation in control cabinet
- High degree of data security thanks to mirror disk system (optional)
- Battery-backed SRAM as memory for WinAC data (with 24 V DC industrial power supply)
- 2 x 7-segment display, 2 freely-programmable signal LEDs
- CMOS battery compartment accessible from outside
- Preinstalled and activated operating system, fast restoration of delivery state of hard disk contents with recovery and re-store CDs
- Global service and support

Cost reduction through high degree of investment protection

- Long-term platform with embedded Intel components
- Availability for 3-5 years, secured spare part availability for 5 years
- System-tested with SIMATIC components
- Certification for global marketing (cULus)
- Installation-compatible beyond device generations, software-compatible with predecessor model

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Application

The SIMATIC Box PC 827B provides mechanical engineers, plant engineers, and control cabinet makers with a high-performance, compact PC platform for application at the machine or in the industrial environment for:

- Measuring, testing, open-loop and closed-loop control of process and machine data (e.g. filling plants, packaging machines, machines for the semiconductor industry, CD/DVD production machines)
- Operating and visualization tasks with separate display/monitor solutions (e.g. information terminals, large-scale displays in automotive production)
- Data acquisition and processing (e.g. wind-driven power stations, energy management, test systems)

The SIMATIC Box PC 827B has CE certification for use in the industrial sector as well as in residential and commercial areas, and small businesses. In addition to industrial applications, it can also be used in building services automation or in facilities open to the public.

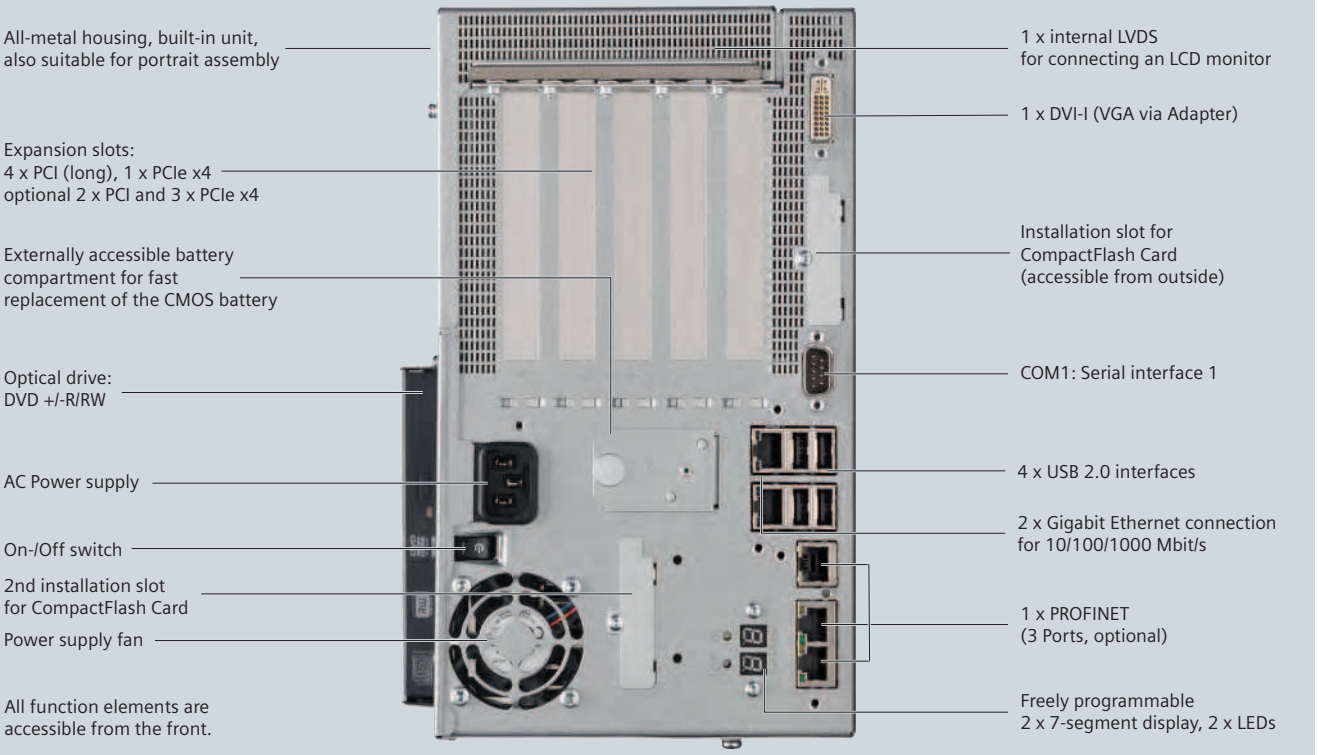
Design

Basic design

- Rugged metal installation housing, resistant to vibrations and shocks, with high electromagnetic compatibility
- 5 spare PC slots for expansion
- Card retainer for reliable operation of PC modules in the event of vibrations and shocks
- Graphics onboard 1600 x 1200, 85 Hz, 32-bit colors
  - Interfaces (accessible from one side):
  - 2 x LAN 10/100/1000 Mbit/s Ethernet interface (RJ45, teaming-capable)
  - DVI-I graphics interface
  - 4 x USB 2.0
  - 1 x serial (COM1)
- Two 7-segment displays and two LEDs for status indication (freely programmable)
- Flash Drive: SIMATIC PC CompactFlash (can be plugged in from the outside)

For design variations of the SIMATIC PC see "ordering data".

SIMATIC Box PC 827B: Connections and Expansions


All-metal housing, built-in unit, also suitable for portrait assembly
Expansion slots: 4 x PCI (long), 1 x PCIe x4 optional 2 x PCI and 3 x PCIe x4
Externally accessible battery compartment for fast replacement of the CMOS battery
Optical drive: DVD +/-R/RW
AC Power supply
On-/Off switch
2nd installation slot for CompactFlash Card
Power supply fan
All function elements are accessible from the front.
1 x internal LVDS for connecting an LCD monitor
1 x DVI-I (VGA via Adapter)
Installation slot for CompactFlash Card (accessible from outside)
COM1: Serial interface 1
4 x USB 2.0 interfaces
2 x Gigabit Ethernet connection for 10/100/1000 Mbit/s
1 x PROFINET (3 Ports, optional)
Freely programmable 2 x 7-segment display, 2 x LEDs

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SIMATIC Box PC 827B

Ordering data

Order No.

Configuration [1]

SIMATIC Box PC 827B Z **6ES7 647-6N** ■■■ - ■■■■

Graphic onboard, 128 MB shared memory; 2 x 10/100/1000 Mbit/s Ethernet RJ45; 4 x USB V2.0 (high current); 1 x serial (COM1), RAID controller onboard; CompactFlash drive No. 1 at front (without CF); watchdog, temperature/fan monitoring;

Processor:

- Celeron M 440 (1,86 GHz, 1 MB L2, 533 MHz FSB) — A
- Celeron M 440 (1.86 GHz, 1 MB L2, 533 MHz FSB); PROFIBUS/MPI; 2 MB battery-backed SRAM — B
- Celeron M 440 (1.86 GHz, 1 MB L2, 533 MHz FSB); PROFINET (3 x RJ45, CP1616 compatible); 2 MB battery-backed SRAM — C
- Core 2 Duo T5500 (1,66 GHz, 2 MB L2, 667 MHz FSB); — D
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2, 667 MHz FSB); PROFIBUS/MPI ; 2 MB battery-backed SRAM — E
- Core 2 Duo T5500 (1.66 GHz, 2 MB L2, EM64-T); PROFINET (3 x RJ45, CP 1616-compatible; 2 MB battery-backed SRAM — F
- Core 2 Duo T7400 (2.16 GHz, 4 MB L2, 667 MHz FSB) — G
- Core 2 Duo T7400 (2.16 GHz, 4 MB SLC, 667 MHz FSB); PROFIBUS/MPI; 2 MB battery-backed SRAM — H
- Core 2 Duo T7400 (2.16 GHz, 4 MB SLC, EM64-T, 667 MHz FSB); PROFINET (3 x RJ45, CP 1616-compatible; 2 MB battery-backed SRAM — J

Memory configuration:

- 256 MB DDR2 667 SODIMM — 0
- 512 MB DDR2 667 SODIMM — 1
- 1 GB DDR2 667 SODIMM — 2
- 2 GB DDR2 667 SODIMM — 3
- 3 GB DDR2 667 SODIMM — 4
- 4 GB DDR2 667 SODIMM — 5

Country-specific version/ power supply:

- 110/230 V AC industrial power supply with Namur; European power cable — 0
- 110/230 V AC industrial power supply Namur; UK power cable — 1
- 110/230 V AC industrial power supply Namur; power cable for Switzerland — 2
- 110/230 V AC industrial power supply Namur; US power cable — 3
- 110/230 V AC industrial power supply Namur; Italian power cable — 4
- 110/230 V AC industrial power supply Namur; Chinese power cable; — 5
- 24 V DC industrial power supply — 6

Order No.

Configuration (continued)

SIMATIC Box PC 827B Z **6ES7 647-6N** ■■■ - ■■■■

Expansions (HW):

- 4 x PCI, 1 x PCIe (x4) free — 0
- 2 x PCI, 3 x PCIe (x4) free; — 1
- PCI interface card with COM2, LPT1; 1 x PCI, 3 x PCIe free; — 3
- PCI card with COM2, LPT1; 3 x PCI, 1 x PCIe free; — 4

Drives:

- 80 GB HDD SATA — A
- 80 GB HDD SATA + DVD+/-RW — B
- 160 GB HDD SATA — C
- 160 GB HDD SATA + DVD+/-RW — D
- 2 x 80 GB SATA (2.5") — E
- 2 x 80 GB SATA (2.5") + DVD+/-RW — F
- RAID1 2 x 80 GB SATA (2.5") — G
- RAID1 2 x 80 GB SATA (2.5") + DVD+/-RW — H
- CompactFlash Drive Nr. 2 at front (instead of HDD, ODD, without CF) — W
- without drives — X

Operating system [2]:

- Windows 2000 Prof. multi-language SP4 (Eng, Fr, Ger, It, Sp) — Z — A
- Windows XP Prof. multi-language SP2 (Eng, Fr, Ger, It, Sp) — Z — B
- Windows Vista Ultimate multi-language (Eng, Fr, Ger, It, Sp); (min. 512 MB memory) — C
- Windows XP Embedded (SP2) D) English on 2 GB CompactFlash; (min. 512 MB memory; no RAID1) — Z — F
- without operating system — P — X

Expansion (SW):

- no expansion(SW) — 0
- SIMATIC PC DiagMonitor software included — E — 1
- SIMATIC PC Image Creator software included — E — 2
- SIMATIC PC DiagMonitor and Image Creator software included — E — 3

1) The SIMATIC PC Online Configurator offers a current overview: *www.siemens.com/ipc-configurator*

2) Windows XP Embedded: at least 512 MB; RAID1-Option not selectable

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3

P) Subject to export regulations: AL: N and ECCN: 4A994B1

Z) Subject to export regulations: AL: N and ECCN: 5D992

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Ordering data

		Order No.
Accessories		
Memory expansions	A	
• 256 MB, DDR2 667, SODIMM	A	**6ES7648-2AG20-0HA0**
• 512 MB, DDR2 667, SODIMM	A	**6ES7648-2AG30-0HA0**
• 1 GB, DDR2 667, SODIMM	A	**6ES7648-2AG40-0HA0**
• 2 GB, DDR2 667, SODIMM	A	**6ES7648-2AG50-0HA0**
PCI expansion card with COM2 and LPT	A	**6ES7648-2CA01-0AA0**
Graphic adapter cable, DVI-I compliant with VGA, 250 mm long;		**6ES7648-3AB00-0XA0**
Graphic adapter cable, DVI-I compliant with VGA and DVI-D, 250 mm long; (Y-cable)		**6ES7648-3AE00-0XA0**
Portrait installation kit		
Interfaces upward/downward	A	**6ES7648-1AA30-0YA0**
Interfaces to the front	A	**6ES7648-1AA30-0YB0**
Power cable, bent, 3 m long		
SIMATIC PC, power cable for 230 V AC, angled, 3 m for Box PC and Panel PC for		
• Austria, Belgium, Finland, France, Germany, Netherlands, Spain, Sweden		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• USA		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
• China		**6ES7 900-1FA00-0XA0**
36 month service option for SIMATIC Rack PC and Box PC [1]		**A5E00510072**

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix. Chapter 10

		Order No.
Expansion components		
• **SIMATIC PC keyboard** German/international, USB port		**6ES7 648-0CB00-0YA0**
• **USB mouse** (optical, 3-button) for programming device and PC with adapter	A	**6ES7 790-0AA01-0XA0**
CompactFlash Card	A	
• 2 GB	A	**6ES7 648-2BF02-0XF0**
• 4 GB	A	**6ES7 648-2BF02-0XG0**
• 8 GB	A	**6ES7648-2BF02-0XH0**
SIMATIC USB Flash Drive 2 GB, USB 2.0, metal enclosure, boot capability	A	**6ES7 648-0DC40-0AA0**
for communication products see chapter 7		
for power supplies and DC-UPS see page 3/83		
for RMOS3 real-time operating system see page 3/66		

A) Subject to export regulations: AL: N and ECCN: EAR99H

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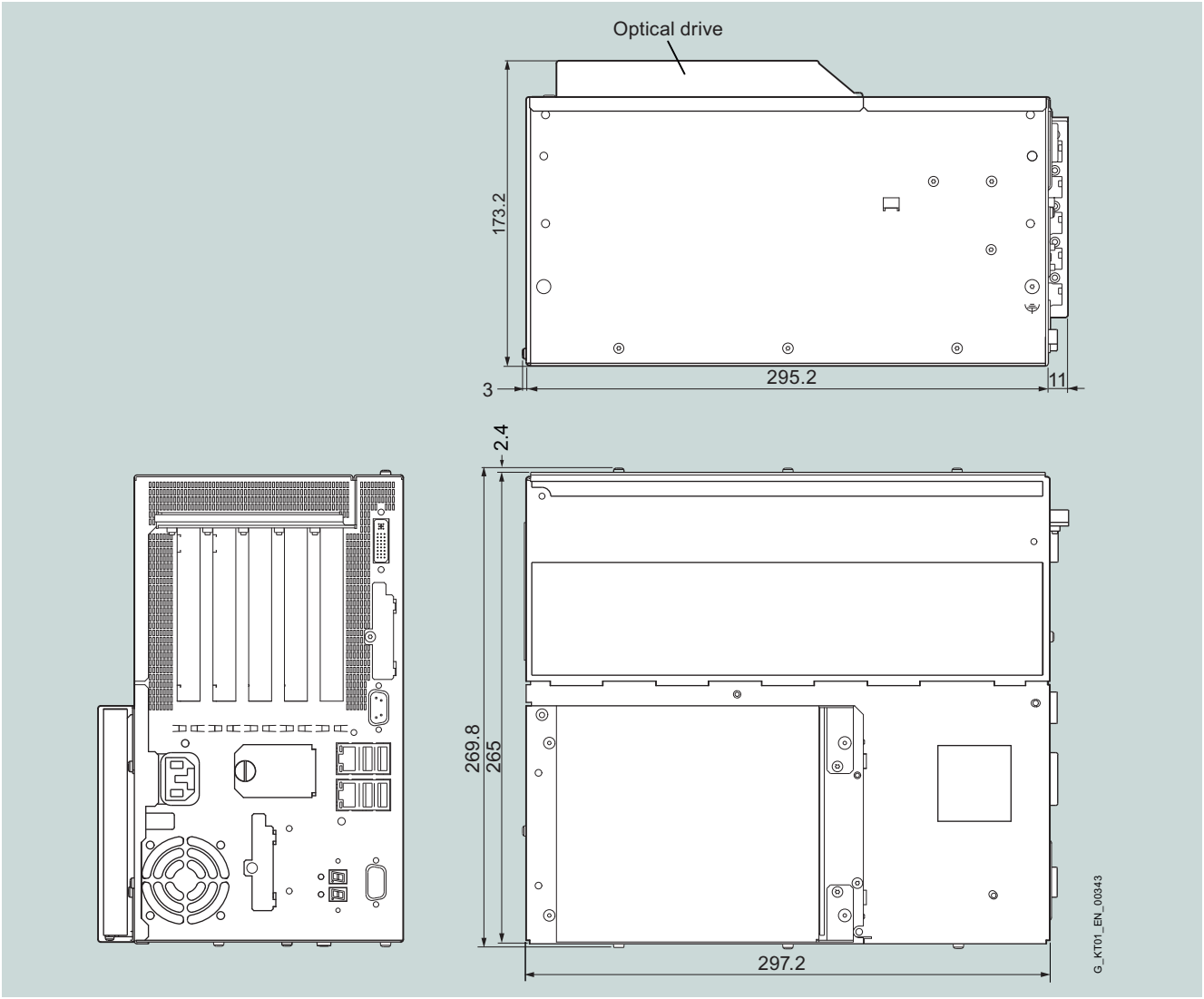
SIMATIC Box PC 827B

Dimensions



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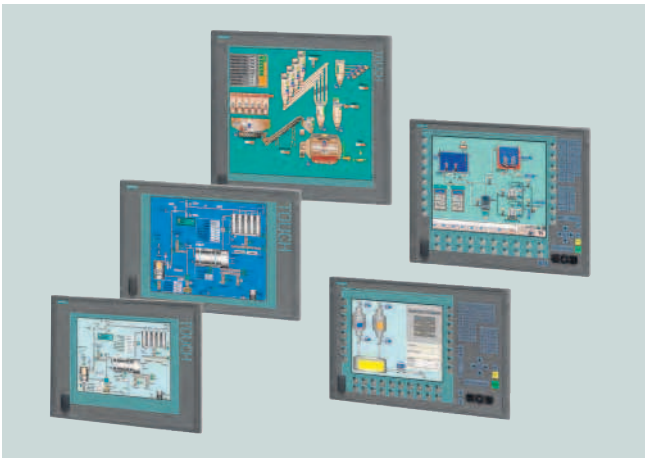
Overview



SIMATIC Panel PCs are suitable thanks to their high industrial compatibility both for use in control cabinets, consoles and control panels, as well as directly on the machine. Typical areas of application can be found in both production and process automation.

There is a broad range of robust, high-performance SIMATIC Panel PCs available for different requirements.

Shared industrial functionality

- High-quality components and modules with a high MTBF (mean time between failure), which also ensure 24-hour operation in the extended temperature range.
- High swing/shock capacity of the devices through special hard-disk suspensions, locked connectors and card retainers
- Rugged housing model with high electromagnetic compatibility (EMC) and integrated industrial power supplies (also as per NAMUR)
- Service-friendly device design
- Bright, brilliant displays in different sizes up to 19"
- Same front panel mounting dimensions and uniform front design across all device families
- Rugged fronts protected from dust, humidity and chemical substances (front-side IP65 / NEMA 4 degrees of protection)

SIMATIC Panel PC 477B embedded

Ultra-compact and maintenance-free Panel PC in embedded technology

- Only 75 mm mounting depth (19" display: 98 mm)
- No rotating parts (without fan and hard disk)
- High security due to the Microsoft Windows XP embedded operating system
- Ready-to-use devices with optionally preinstalled software
  - HMI: Innovative HMI software WinCC flexible (incl. archives and recipes)
  - RTX: with real-time capable software PLC WinAC RTX
- Expandable with PC/104(+) plug-in cards
- Retentive memory on board (NV-RAM, usable with WinAC RTX)

SIMATIC Panel PC 577B

Industrial functionality and openness at an attractive price

- All versions available from stock
- Rugged design for industrial use
- Can be expanded using PCI slots and further ports

SIMATIC Panel PC 677B

Flexibility and compactness with maximum performance

- High performance thanks to latest process technology from Intel
- Dual Core technology: Up to Intel Core 2 Duo 2.16 GHz
- Compact structure with simultaneous expandability through PCI/PCIe slots
- Strong communication through two Ethernet and integrated PROFIBUS DP/MPI interfaces
- Control and computer units can be separated by up to 30 m
- RAID1 controller on board
- Retentive memory on board (NV-RAM, usable with WinAC RTX)

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Overview (continued)

	SIMATIC Panel PC 477B embedded	SIMATIC Panel PC 577B	SIMATIC Panel PC 677B
Design			
Centralized configuration	●	●	●
Distributed configuration (via remote kit)	–	–	●[2]
Display			
Size	12"/15"/19" TFT	12"/15"/19" TFT	12"/15"/15" INOX/17"/19" TFT
Resolution	800 x 600 / 1 024 x 768 / 1 280 x 1 024	800 x 600 / 1 024 x 768 / 1 280 x 1 024	800 x 600 / 1 024 x 768 / 1 280 x 1 024
Operator controls			
Membrane keyboard	●[1]	–	●[1]
Touch screen	●	●	●
General features			
Power supply 24 V DC / 110/230 V AC	● / –	– / ●	● / ●
Processor	Intel Celeron M 1.0 GHz; Intel Pentium M 1.4 GHz	Intel Celeron M 1.86 GHz	Intel Celeron M 1.86 GHz; Intel Core 2 Duo 1.66 GHz; Intel Core 2 Duo 2.16 GHz
Main memory	1 GB or 2 GB	1 GB, expandable to 4 GB	1 GB; 2 GB; 3 GB; 4 GB
Expansion slots	3 x PC/104 [2]; 2 x CF-Slot (1 x accessible from outside)	2 x PCI [3]; 1 x CF slot (accessible from outside)	2 x PCI or 1 x PCI and 1 x PCIe x4 [3]; 1 x CF slot
Operating system	Windows XP embedded on CF Card	None; Windows XP Professional MUI	None; Windows 2000 Professional MUI; Windows XP Professional MUI; Windows Vista Ultimate MUI; Windows XP embedded on CF
Interfaces			
PROFIBUS / MPI	●	–[4]	●
PROFINET	●	–[4]	●
Ethernet	10/100/1 000 MBit	10/100/1 000 MBit	10/100/1 000 MBit
PS/2 (mouse/keyboard)	–	–	–
USB	●	●	●
Serial interface	●	●	●
Parallel interface	–	–	–
Audio in/out	–	–	–
Graphics interface	●	●	●
Ambient conditions			
Vibration load during operation	**1 g**	**0.25 g**	**1 g**
Shock loading during operation	**5 g**	**1 g**	**5 g**
Permissible temperature during operation with maximum configuration	+5 … +50 °C	+5 … +45 °C [8]	+5 … +50 °C [5]
Power loss in maximum configuration			
12"/15" display	80 W [6]	140 W [7]	140 W [7]
17"/19" display	110 W [6]	163 W [7]	163 W [7]

● Available
– Not available

1) 12"/15" displays
2) With optional expansion rack
3) All slots with card retainer
4) Expandable via plug-in card
5) With 17"/19" Touch: +5 ... 45 °C; max. 50 °C in installation space, if at the front max. 40 °C
6) 3 W taken into account for each PC/104 slot
7) 15 W taken into account for each PCI/PCIe slot
8) max. 50 °C in installation space, if at the front max. 40 °C

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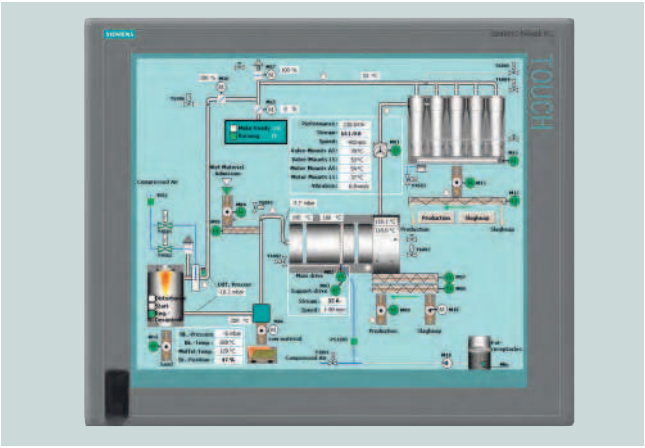
Overview



- Embedded PC platform with extremely high industrial compatibility for demanding tasks in the field of PC-based automation
- Maintenance-free (no rotating components such as fan and hard disk)
- Rugged construction: The PC is resistant to the harshest mechanical stress and is extremely reliable in operation
- Compact structure (only 75 mm mounting depth for 12"/15")
- High degree of investment protection
- Fast integration capability
- Front panel versions:
  - 12“ and 15“ TFT Touch
  - 12“ and 15“ TFT Key
  - 19" Touch

Benefits

- Excellent industrial compatibility due to rugged construction, even when subjected to extreme vibration and shock
- High level of investment security thanks to assured spare parts availability of the components (for 5 years following the end of active marketing)
- Excellent continuity of components for machine concepts with a long service life without any new engineering costs
- Savings in time and costs due to service-friendly equipment construction:
  - Front and rear USB 2.0 interfaces for quick and easy connection of additional hardware components
- High degree of industrial functionality thanks to integrated PROFIBUS DP/MPI and Ethernet interfaces
- Maintenance-free due to lack of rotating components (fan and hard disk)
- Reduction in standstill times thanks to high system availability
  - Efficient self-diagnostics (SIMATIC PC DiagMonitor)
  - High reliability and security of an embedded platform
- Integral part of Totally Integrated Automation (TIA):
  - Enhanced productivity, reduction of engineering costs, reduction of lifecycle costs
- Turnkey complete solution is supplied (the software is already installed and preconfigured) for visualization and automation in combination with WinCC flexible and WinAC RTX

Application

SIMATIC Panel PC 477B embedded is designed for use direct at the machine, where the focus is on a combination of ruggedness and maximum reliability (the reliability of an embedded platform), and the openness of a PC is also required (e.g. module expansion and the connection of I/O devices such as printers, keyboards, etc.).

Due to the minimal mounting depth, it can also be used in confined spaces.

The PC can be used in production automation as well as in process automation and can be mounted in control cabinets, control desks, 19" cabinets/racks and in gantries.

A SIMATIC Panel PC is the ideal platform for PC based Automation:

- PC based visualization on-site at the machine with SIMATIC WinCC flexible
- PC based Control with SIMATIC WinAC RTX
- SIMATIC WinCC Web client for Web-based solutions with WinCC/Web Navigator
- SIMATIC WinCC Standard Client

Siemens offers the complete set of building blocks of automation components that are designed to interact perfectly.

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SIMATIC Panel PC 477B embedded

Design

The Panel PC 477B embedded is a compact unit comprising an operator control unit with an integrated computing unit.

Standard components of the computer unit:

- Rugged metal housing, resistant to vibrations and shocks, with high electromagnetic compatibility.
- Processor:
  - Intel Celeron M 1.0 GHz
- Main memory basic configuration:
  - 1 GB (DDR2 SDRAM)
  - Battery-buffered retentive memory 2 MB
- Compact Flash Drive (internal) with pre-installed Windows XP embedded (Image) and optional software
- Graphics on board (VGA analog, 1280 x 1024)
- Interfaces:
  - 2 x Ethernet on board (10/100/1000 Mbit/s)
  - PROFIBUS DP/MPI on board, floating
  - 5 x USB 2.0 port, 500 mA (1 x front)
  - 1 x COM1 (RS232)
  - 1 x DVI-I (for connecting a second display unit)
- Free slots for expansion:
  - 1 x Compact Flash Slot (accessible from outside)
  - 3 x PC/104 (over expansion frame)
- Power supply: 24 V DC

Components of the operator control unit:

The operator control units are available in the following versions:

12" Key

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse

12" Touch

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Resistive analog touch screen

15" Key

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Membrane keyboard with international PC character set and 36 additional function keys and an integrated mouse

15" Touch

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Resistive analog touch screen

19" Touch

- 19.1" TFT color display, 1280 x 1024 (SXGA)
- Resistive analog touch screen

The components are equipped with an USB 2.0 interface at the front for connecting external I/O devices such as a mouse or keyboard and fulfill the requirements of degree of protection IP65 and NEMA 4. All computing units are also optionally available with a front USB interface.

Note:

Further information can be found under "Expansion components"

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Ordering data

Order No.

Ready-to-use Panel PC 477B as a WinCC Standard Client

WinCC V7.0 is already installed and set up on the 4 GB compact flash card as a standard client.
The Panel PC 477B has a 24 V DC power supply and has 2x Ethernet 1Gbit/s, 4x USB 2.0, 1x COM1 (RS232).
Available solutions:

• 15" Touch, Celeron 1.0 GHz processor with 1 GB of main memory	E	**6ES7 676-3DA20-0DS0**
• 15" Touch, Pentium M 1.4 GHz processor with 2 GB of main memory	E	**6ES7 676-3GA30-0DS0**
• 19" Touch, Celeron 1.0 GHz processor with 1 GB of main memory	E	**6ES7 676-6DA20-0DS0**
• 19" Touch, Pentium M 1.4 GHz processor with 2 GB of main memory	E	**6ES7 676-6GA30-0DS0**

Version for embedded PC applications

SIMATIC Panel PC 477B embedded Z **6ES7 676 - ■AA0 0 - 0■A0**

Celeron 900 MHz processor, 1 GB RAM, without fieldbus interface[1], Windows XP embedded operating system pre-installed

Front panels

• 12" TFT Touch	1
• 15" TFT Touch	3

Mass storage

• CompactFlash 2 GB	C
• CompactFlash 4 GB	D

• With Windows XP embedded operating system preinstalled	A

Order No.

Versions for "Embedded Automation", TIA applications

(preferred versions from stock

SIMATIC Panel PC 477B embedded Z **6ES7 676- ■BA0 0 - 0■■0**

Celeron M 1.0 GHz processor, main memory 1 GB DDR2 SDRAM, power supply 24 V DC, 2x Ethernet 1 Gbit, PROFIBUS DP interface

Frontpanels

• 12" TFT Touch	1
• 12" TFT Key	2
• 15" TFT Touch	3
• 15" TFT Key	4
• 19" TFT Touch	6

Mass storage

• CompactFlash 2 GB	C
• CompactFlash 4 GB	D

Software packages

• With Windows XP embedded operating system (EN/DE) preinstalled	A
• With operating system and RTX (DP), Windows XP embedded preinstalled, WinAC RTX preinstalled and configured for PROFIBUS	B
• With operating system and HMI (PN/DP), Windows XP embedded preinstalled, WinCC flexible RT (incl. archives/recipes) preinstalled	
- Number of tags 128 PT	C
- Number of tags 512 PT	D
- Number of tags 2048 PT	E
• With operating system and HMI/RTX (DP) Windows XP embedded preinstalled, WinCC flexible RT (incl. Archives/Recipes) preinstalled, WinAC RTX preinstalled and configured for PROFIBUS	
- Number of tags 128 PT	F
- Number of tags 512 PT	G
- Number of tags 2048 PT	H

1) Not retrofittable since it is a placement option
E) Subject to export regulations: AL: N and ECCN: 5D002ENC3
Z) Subject to export regulations: AL: N and ECCN: 5D992

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SIMATIC Panel PC 477B embedded

Ordering data

Order No.

Further Panel PCs as build to order versions
(max. delivery time 15 working days)

	Z	6AV7 85 ■ - 0A■■■ - ■■A0
SIMATIC Panel PC 477B embedded		
24 V DC power supply		
Front panels		
• 12“ TFT Touch		1
• 12“ TFT Key		2
• 15“ TFT Touch		3
• 15“ TFT Key		4
• 19“ TFT Touch		6
Processor		
• Celeron M 1.0 GHz		D
• Celeron M 1.0 GHz with PROFIBUS DB12		E
• Celeron M 1.0 GHz with PROFINET		F
• Pentium M 1.4 GHz		G
• Pentium M 1.4 GHz with PROFIBUS DB12		H
• Pentium M 1.4 GHz with PROFINET		J
Main memory		
• 1 GB DDR2 SDRAM		2
• 2 GB DDR2 SDRAM		3
Second CompactFlash slot (externally accessible)		
- Not fitted		0
- fitted with CF card 2 GB		3
- fitted with CF card 4 GB		4
Software packages		
With Windows XP embedded operating system (EN/DE) preinstalled		
• With CF card 2 GB		3B
• With CF card 4 GB		4B
With operating system (DP/PN) and HMI, Windows XP embedded preinstalled, WinCC flexible RT (incl. archives/recipes) preinstalled		
• With CF card 2 GB		3
• With CF card 4 GB		4
• Number of tags 128 PT		D
• Number of tags 512 PT		E
• Number of tags 2048 PT		F
With operating system and RTX Windows XP embedded preinstalled, WinAC RTX preinstalled and configured		
• With CF card 2 GB		3
• With CF card 4 GB		4
• WinAC RTX (DP), configured for PROFIBUS		C
• WinAC RTX (PN), configured for PROFINET		K

Z) Subject to export regulations: AL: N and ECCN: 5D992

Order No.

Further Panel PCs as build to order versions
(continued)

	Z	6AV7 85 ■ - 0A■■■ - ■■A0
SIMATIC Panel PC 477B embedded (continued)		
Software packages		
With operating system and HMI/RTX (DP) Windows XP embedded preinstalled, WinCC flexible RT (incl. Archives/Recipes) preinstalled, WinAC RTX preinstalled and configured for PROFIBUS		
• With CF card 2 GB		3
• With CF card 4 GB		4
• Number of tags 128 PT		G
• Number of tags 512 PT		H
• Number of tags 2048 PT		J
With operating system and HMI/RTX (PN) Windows XP embedded preinstalled, WinCC flexible RT (incl. Archives/Recipes) preinstalled, WinAC RTX preinstalled and configured for PROFINET		
• With CF card 2 GB		3
• With CF card 4 GB		4
• Number of tags 128 PT		L
• Number of tags 512 PT		M
• Number of tags 2048 PT		N

Please note:

The scope of supply of the Panel PC 477B mainly comprises the Panel PC and a software pack that contains the CompactFlash card with preinstalled and configured software as well as all the necessary license keys. Only after the CompactFlash card has been inserted in the (internal) slot provided is the unit ready for switching on.

Note:

Further embedded versions based on Microbox PC are listed under SIMATIC PC based Control.

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Ordering data

		Order No.
Accessories		
Cover foil for Panel PCs 477/577/677/877		
For protecting the touch screen against dirt/scratches		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
• for 19" Touch		**6AV7 672-1CE00-0AA0**
Labeling foil for Panel PCs 477/577/677/877		**6AV7 672-0DA00-0AA0**
For labeling softkeys and function keys, blank, supplied in sets of 10		
Touch pen	A	**6AV7 672-1JB00-0AA0**
Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet		
36 months service option [1]	Z	**A5E00509961**
for SIMATIC Panel PC		

		Order No.
Expansion components		
SIMATIC PC/PG DiagMonitor V4.0		**6ES7 648-6CA04-0YX0**
Software tool for monitoring SIMATIC PCs, incl. manual, on CD-ROM (German/English)		
SIMATIC PC Image Creator V2.1	B	**6ES7 648-6BA02-1YX0**
Software tool for data backup for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)		
SIMATIC PC Partition Creator V2.1	B	**6ES7 648-6AA02-1YX0**
Software tool for hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)		
SIMATIC PC USB FlashDrive	A	**6ES7 648-0DC40-0AA0**
2 GB, USB 2.0, metal enclosure, bootable		
3.5" disk drive, USB	A	**6FC5 235-0AA05-1AA2**
With 1 m connecting cable		
Industrial USB Hub 4	A	**6AV6 671-3AH00-0AX0**
4 x USB 2.0, IP65 for control cabinet door or DIN rail		
Compact Flash Card		
• 2 GB	A	**6ES7 648-2BF01-0XF0**
• 4 GB	A	**6ES7 648-2BF01-0XG0**
Expansion kit PC/104	A	**6AG4 070-0BA00-0XA0**
For integration of PC/104 modules (packing unit contains 6 expansion frames)		

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix

A) Subject to export regulations: AL: N and ECCN: EAR99H

B) Subject to export regulations: AL: N and ECCN: EAR99S

Z) Subject to export regulations: AL: N and ECCN: 5D992

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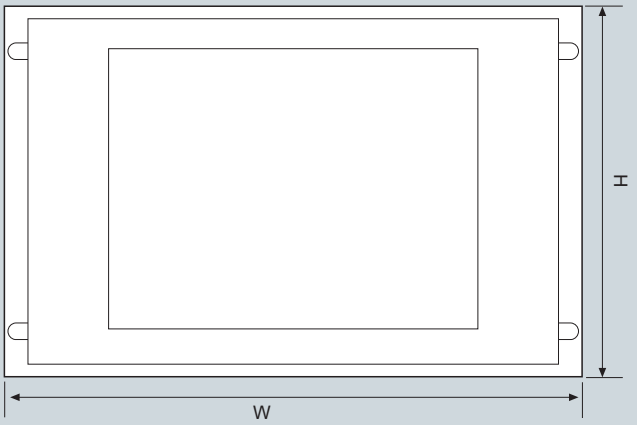
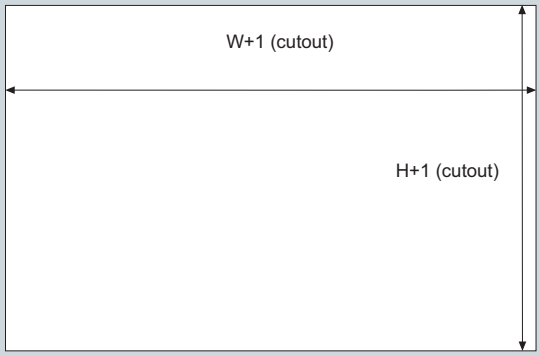
3

Dimensions





Front dimensions

Touch panels	W	H
12"	400	310
15"	483	310
19"	483	400

Key panels	W	H
12"	483	310
15"	483	355

Installation cutouts

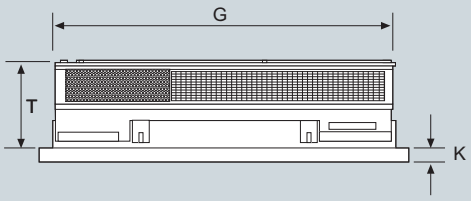
Touch panels	W+1	H+1
12"	368	290
15"	450	290
19"	450	380

Key panels	W+1	H+1
12"	450	290
15"	450	321*

* In addition: two 25 x 5 mm recesses on the top side for keyboard slide-in label channels

G_ST80_XX_00290Y

Operating unit and complete unit



Operator panels PC 477B	G	K	T
Touch panels			
12"	289	3	75
15"	289	3	75
19"	307	11	98
Key panels			
12"	289	3	75
15"	324	3	75

All dimensions without screw protrusions

G_ST80_XX_00283

More information

You will find more information on the Internet at:

http://www.siemens.com/panel-pc

Note:

Do you need a specific modification or expansion to the products described here? Then refer to "Customer-specific products". Information is available here about additional, generally available sector products as well as the possibilities for customer-specific modification and adaptation.

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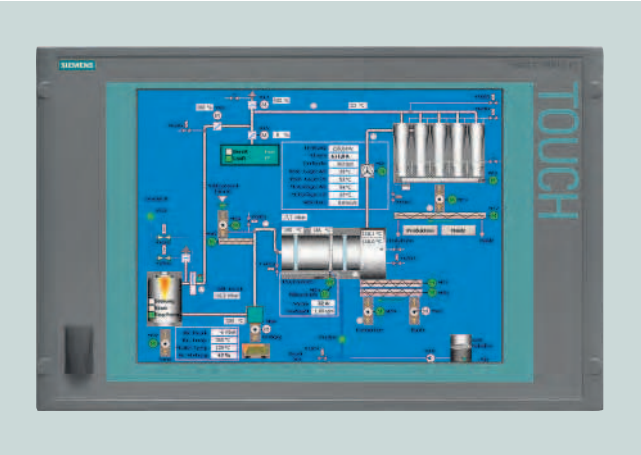
Overview



PC with standard industrial capability, full PC openness and attractive price

- Rugged design for industrial use
- Touch screen operator units with 12", 15" and 19" TFT display
- Expandable using 2 PCI slots
- All versions available from stock

Benefits

- High degree of operational safety and minimization of standstill times – even under mechanical stress
- Highly expandable by the customer thanks to diverse interfaces (PCI, CompactFlash, GBit Ethernet, and others)
- All versions available at short notice and low cost direct from stock

Application

The SIMATIC Panel PC 577B is used in manufacturing automation and process automation. The device has been designed for installation in control cabinets and consoles, 19" cabinets/racks, and swivel arms (booms).

Thanks to its full PC openness and the powerful Celeron M processor, it can be used for a host of different applications.

Design

The Panel PC 577B is equipped as follows:

Computing unit

- Rugged metal housing for industrial use
- Processor: Intel Celeron M 440/1.86 GHz with Mobile Intel 945G chipset
- Main memory configuration: 1 GB
- Hard disk ≥ 80 GB (3.5" SATA) with vibration-absorbent hard disk holder guarantees reliable operation even under conditions of high mechanical stress
- Graphics onboard
- Interfaces:
  - 2 x 10/100/1000 Ethernet
  - 4 x USB 2.0 port, (500 mA) + 1 x front interface
  - 1 x serial V.24 (9-pin)
- Free slots for expansion:
  - 2 x PCI (slots with card retainer)
  - 1 x slot for Compact Flash Card (externally accessible)
- Power supply: 100/240 VAC, (autorange), 50/60 Hz
- DVD ± RW ± R combo drive

Operating unit

Operating units are available in the following sizes/resolutions:

- ***12" Touch:*** 12.1" TFT color display, 800 x 600 pixels (SVGA)
- ***15" Touch:*** 15.1" TFT color display, 1024 x 768 pixels (XGA)
- ***19" Touch:*** 19.1" TFT color display, 1280 x 1024 pixels (SXGA)

The operating units have the following functionality:

- Analog-resistive touchscreen
- Degree of protection IP65 and NEMA 4
- USB 2.0 interface on the front for connecting external I/O devices such as mouse or keyboard

Ordering data

Order No.

All versions available from stock

SIMATIC Panel PC 577B		**6AV7 83 ■ - 0BA1 0 - 1C■ 0**
Touch front panel with front USB port • 100/240 V AC, with power cable for Europe and USA • Intel Celeron M 440 / 1.86 GHz (533 MHz FSB, 1 MB SLC) • Free slots: 2 x PCI • Main memory: 1 GB DDR2 • Hard disk drive 80GB SATA 3.5“ • DVD ± RW ± R combo drive		
Front panels		
• 12" TFT Touch		**0**
• 15" TFT Touch		**2**
• 19" TFT Touch		**5**
Operating system		
• Without operating system	P	**A**
• Windows XP Professional Multi-Language[1)]	Z	**C**

P) Subject to export regulations: AL: N and ECCN: 4A994B1
Z) Subject to export regulations: AL: N and ECCN: 5D992
1) Multi-language means: D/E/F/I/SP/CHIN traditional/CHIN simplified/Korean/Japanese

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SIMATIC Panel PC 577B

Ordering data

		Order No.
Accessories (continued)		
Cover foil for Panel PCs, set of 10 For protecting the touch screen against dirt/scratches		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
• for 19" Touch		**6AV7 672-1CE00-0AA0**
Memory expansion		
• 1 GB DDR2	A	**6ES7 648-2AG40-0HA0**
• 2 GB DDR2	A	**6ES7 648-2AG50-0HA0**
Non-heating device cover for SIMATIC Box PC and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for:		
• Europe: D/F/NL/E/B/A/S/FIN		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• USA		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
• China		**6ES7 900-1FA00-0XA0**
Touch pen Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet	A	**6AV7 672-1JB00-0AA0**
36 months service option [1] for SIMATIC Panel PC	Z	**A5E00509961**

		Order No.
Expansion components		
SIMATIC PC/PG DiagMonitor V4.0 Software tool for monitoring SIMATIC PCs, incl. manual, on CD-ROM (German/English)		**6ES7 648-6CA04-0YX0**
SIMATIC PC Image Creator V2.1 Software tool for data backup for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	B	**6ES7 648-6BA02-1YX0**
SIMATIC PC Partition Creator V2.1 Software tool for hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	B	**6ES7 648-6AA02-1YX0**
SIMATIC PC USB FlashDrive 2 GB, USB 2.0; metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
3.5" disk drive, USB With 1 m connecting cable		**6FC5 235-0AA05-1AA2**
Industrial USB Hub 4 4 x USB 2.0 interfaces, IP65 for control cabinet door or DIN rail assembly	A	**6AV6 671-3AH00-0AX0**
Communication components		
PCI interface card With COM1, COM2 and LPT interfaces		**6ES7 648-2CA01-0AA0**

1) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix

A) Subject to export regulations: AL: N and ECCN: EAR99H

B) Subject to export regulations: AL: N and ECCN: EAR99S

Z) Subject to export regulations: AL: N and ECCN: 5D992

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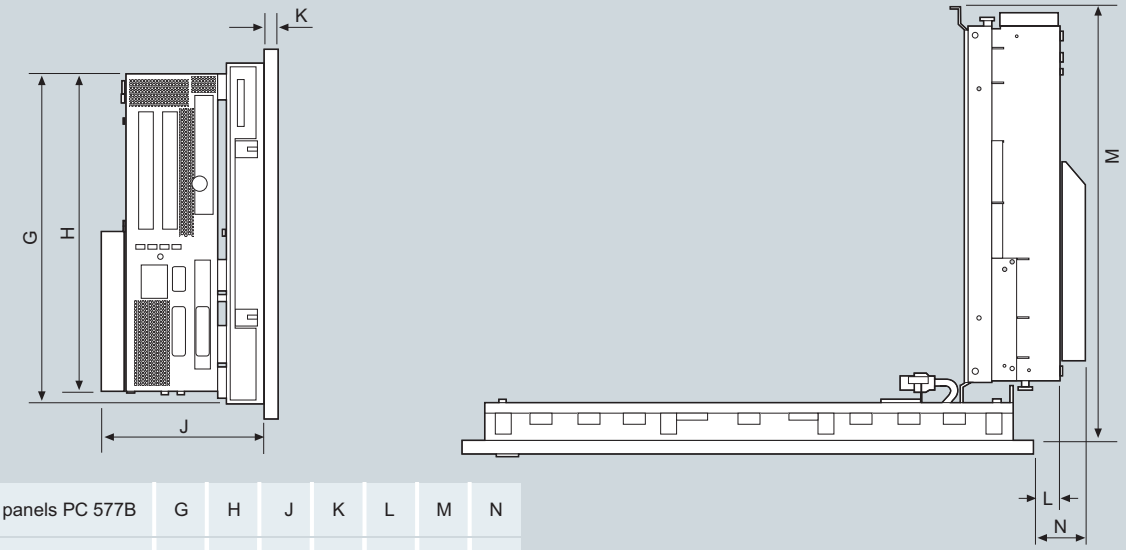
Dimensions

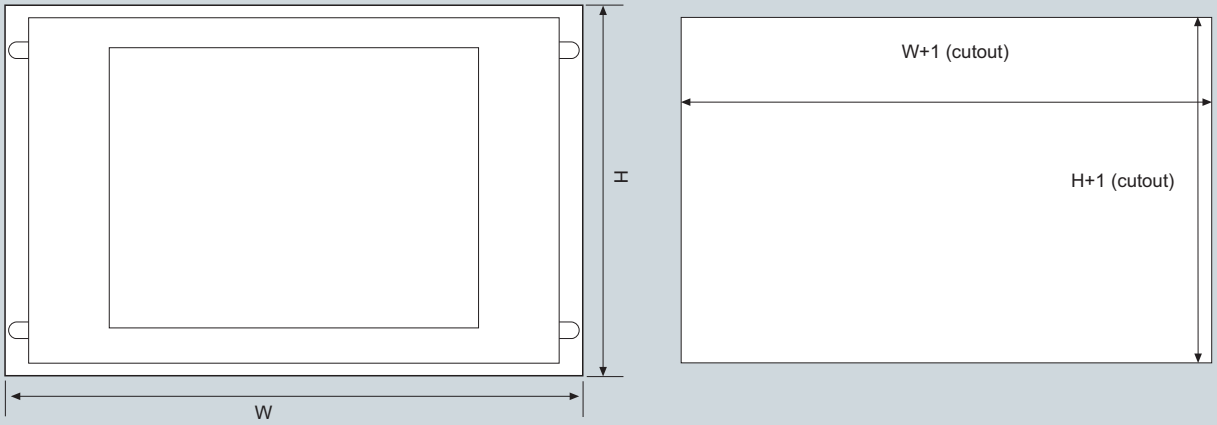


Operator panels PC 577B	G	H	J	K	L	M	N
Touch panels							
12"	289	271	141	11	53	369	71
15"	289	271	138	11	24	367	42
19"	378	271	147	11	18	376	36

All dimensions without screw protrusions

G_ST80_XX_00317

Control unit and complete device



Front dimensions

Touch panels	W	H
12"	400	310
15"	483	310
17“	483	400
19"	483	400

Installation cutouts

Touch panels	W+1	H+1
12"	368	290
15“	450	290
17"	450	380
19"	450	380

G_ST80_XX_00239

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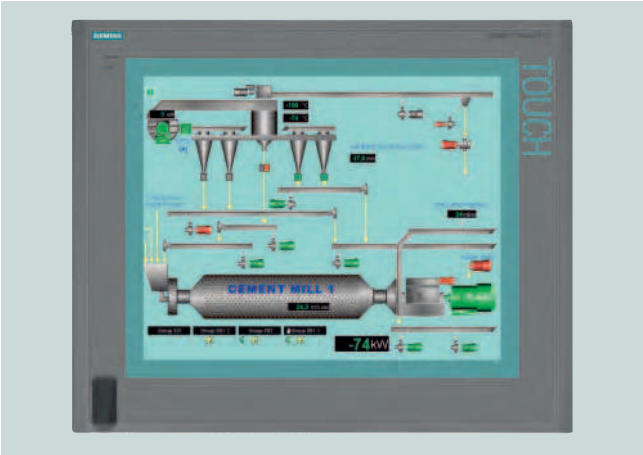
SIMATIC Panel PC 677B (incl. INOX)

Overview



PC platform with high degree of industrial compatibility for demanding tasks in the area of PC-based automation.

Rugged construction:
The PC is resistant to the harshest mechanical stress and is reliable in operation.

- Compact design
- High degree of investment protection
- Fast integration capability
- Front panel versions:
  - 12", 15", 17" and 19" TFT Touch
  - 12" and 15" TFT Key
  - 15" TFT Touch, stainless steel/INOX
- The operator control unit and computing unit can be placed 30 m apart (optional).

Benefits

- Excellent industrial compatibility due to rugged construction, even when subjected to extreme vibration and shock
- High level of investment security thanks to assured spare parts availability of the components (for 5 years following the end of active marketing)
- Excellent continuity of components for machine concepts with a long service life without any new engineering costs
- Savings in time and costs due to service-friendly equipment construction:
  - Operator control unit and computer unit can be simply hinged open for fast replacement of components or for future expansion
  - USB 2.0 interfaces on the front and rear for quick and easy connection of additional hardware components
- High degree of industrial functionality thanks to integrated PROFIBUS DP/MPI or PROFINET interfaces (CP1616-compatible) and 2 GB Ethernet interfaces
- Operational reliability
  Using the optional direct control key module, the process can be operated without delay over PROFIBUS DP independently of the operating system
- 2 x ≥ 80 GB SATA hard disk system (configured as a single disk system or RAID1)
- Reduction in standstill times thanks to high system availability
- Efficient self-diagnostics (SIMATIC PC DiagMonitor):
  - Solutions for preventative data security
- Integral component of Totally Integrated Automation (TIA):
  - Enhanced productivity, reduction of engineering costs, reduction of lifecycle costs
  - Spatially separated configuration of computer and operator control unit possible with the Remote Kit (up to 30 m, optionally available as accessories)

Application

SIMATIC Panel PC 677B is designed for use directly at the machine. Due to the minimal mounting depth of only 105/130 mm, it can also be used in confined spaces.

The PC can be used in production automation as well as in process automation and can be mounted in control cabinets, control desks, 19" cabinets/racks and in gantries.

The Dual Core CPUs with Intel Core 2 Duo technology support simultaneously high performance control and visualization.

With PCIe (x4), the new PCI express (PCIe) cards (x1 and x4) are also supported.

The integrated NV-RAM is supported from WinAC RTX 2005 SP2 and with DC power supply.

A SIMATIC Panel PC is the ideal platform for PC based Automation:

- PC based visualization on site at the machine with SIMATIC WinCC flexible
- Complex solutions with SIMATIC WinCC process visualization
- PC-based Control with SIMATIC WinAC Software PLC or with SIMATIC WinAC Slot PLC

Siemens offers the complete set of building blocks of automation components that are designed to interact perfectly.

The SIMATIC Panel PCs can be ordered in combination with WinCC flexible or WinCC as SIMATIC HMI packages at a lower price (see SIMATIC HMI complete systems).

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Design

The Panel PC 677B comprises a computer unit and an operator control unit.

Components of the computer unit:

- Rugged metal housing, resistant to vibrations and shocks, with high electromagnetic compatibility.
- Processor:
  - Mobile Intel 945G chip set
  - Intel Celeron M 440/1.86 GHz or
  - Intel Core 2 Duo T5500 / Dual Core, 1.66 GHz or
  - Intel Core 2 Duo T7400 / Dual Core, 2.16 GHz
- Main memory basic configuration: 1 GB
- 3.5" SATA hard disk: ≥ 80 GB;
  the special vibration-absorbing hard disk ensures reliable operation even under extreme mechanical stress
- Graphics on board
- Interfaces:
  - 2 x 10/100/1000 Ethernet
  - PROFIBUS DP/MPI on board, floating
  - PROFINET (IRT-capable), 3-port, switching-enabled, CP1616-compatible
  - 4 x USB 2.0 connection
  - 1 x serial V.24 (9-pin)
- Retentive memory:
  - 512 KB NV-RAM for Win AC RTX without UPS (DC versions)
- Free slots for expansion:
  - 2 x PCI (slots with card retainer)
  - 1 x slot for Compact Flash Card
- Power supply: 110 V / 230 V AC (autorange), 50/60 Hz or 24 V DC

Optional additional components:

- Main memory expansion to 2, 3 or 4 GB
- SATA hard disk ≥ 160 GB
- Dual hard disk module 2 x ≥ 80 GB SATA preconfigured as single disk configuration or RAID1
- Internal CF card slot (empty, instead of hard disk and optical drive; only with Windows XP embedded operating system)
- DVD ± RW ± R combo drive
- 1x PCIe x4 / 1x PCI instead of 2 x PCI slots (with card retainers)
- Direct control key module (for devices with key front)

Components of the operator control unit:

The operator control units are available in the following versions:

12" Key

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Membrane keyboard with international PC character set and 36 additional function keys with LED and an integrated mouse

12" Touch

- 12.1" TFT color display, 800 x 600 pixels (SVGA)
- Resistive analog touch screen

15" Key

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Membrane keyboard with international PC character set and 36 additional function keys with LED and an integrated mouse

15" Touch

- 15.1" TFT color display, 1024 x 768 pixels (XGA)
- Resistive analog touch screen

15" Touch stainless steel / INOX

- 15.1" TFT color display, 1024 x 768 (XGA)
- Resistive analog touch screen
- Stainless steel front, designed for use in the food and beverages industry
- Developed on the basis of DIN EN 1672-2
- Polished surface (stainless steel 1.4301, line pattern, grain-size 240)
- IP66k on front
- Without USB front interface
- Shatter-protection for the display
- Optimized frame surface to allow liquids to run off
- Minimized grooves and gaps
- Decorative foil tested against chemicals in accordance with DIN 42115, Part 2
- Mounting with clamping frame only. Sealing material food-safe (EDPM, in accordance with FDA 21 CFR 177.2006)
- Prepared for EHEDG certification for the entire machine

17" Touch

- 17,1" TFT color display, 1280 x 1024 pixels (SXGA)
- Resistive analog touch screen
- Installation compatible to 19" touch

19" Touch

- 19.1" TFT color display, 1280 x 1024 pixels (SXGA)
- Resistive analog touch screen

The operator control units feature a USB 2.0 port on the front for connecting external peripheral devices, such as a mouse or keyboard. They fulfill the requirements of degree of protection IP65 and NEMA 4. All operator control units are also available without a USB port on the front.

The computer unit is connected via a connecting cable attached at the rear of the operator control unit.

Note:

Further information can be found under "Expansion components".

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SIMATIC Panel PC 677B (incl. INOX)

Ordering data

Order No.

Panel PC configurator (contract-based production and delivery)

		Order No.
SIMATIC Panel PC 677B	Z	**6AV7 87 ■ - ■■■■■ - ■■■0**
Front panels		
• 12" TFT Touch		0
• 12" TFT Key		1
• 15" TFT Touch		2
• 15" TFT Key		3
• 17" TFT Touch		4
• 19" TFT Touch		5
Front options		
• With front USB interface		0
• Without front USB interface		1
• INOX front, without front USB, with 15" TFT Touch only		2 2
Power supply		
• 24 V DC		A
• 110/230 V AC, power cable for Europe		B
• 110/230 V AC (without power cable)		C
• 110/230 V AC, power cable for UK		D
• 110/230 V AC, power cable for CH		E
• 110/230 V AC, power cable for the USA		F
• 110/230 V AC, power cable for Italy		G
• 110/230 V AC, power cable for China		H
Processor		
• Intel Celeron M 440 / 1.86 GHz, 533 MHz FSB, 1 MB SLC, slots (spare): 2 x PCI		A
• Intel Celeron M 440 / 1.86 GHz, 533 MHz FSB, 1 MB SLC, slots (spare): 1x PCIe x4 and 1x PCI		B
• Intel Core 2 Duo T5500 / Dual Core, 1.66 GHz, 677 MHz FSB, 2 MB SLC, slots (spare): 2 x PCI		C
• Intel Core 2 Duo T5500 / Dual Core, 1.66 GHz, 677 MHz FSB, 2 MB SLC, slots (spare): 1x PCIe x4 and 1x PCI		D
• Intel Core 2 Duo T7400 / Dual Core, 2,16 GHz, 677 MHz FSB, 4 MB SLC, slots (spare): 2x PCI		E
• Intel Core 2 Duo T7400 / Dual Core, 2,16 GHz, 677 MHz FSB, 4 MB SLC, slots (spare): 1x PCIe x4 and 1x PCI		F

Panel PC configurator (continued)

		Order No.
SIMATIC Panel PC 677B	Z	**6AV7 87 ■ - ■■■■■ - ■■■0**
Main memory		
• 1 GB DDR2		2
• 2 GB DDR2		3
• 3 GB DDR2		4
• 4 GB DDR2		5
Mass storage		
• 80 GB SATA hard disk		0
• 160 GB SATA hard disk		1
• RAID1 dual hard disk module 2 x 80 GB SATA, preconfigured		2
• Dual hard disk module 2 x 80 GB SATA		3
• Second CF card slot (only in combination with Windows XP embedded), internal, not fitted, only with version without opt. drive and without HDD		4
Optical drives		
• Without		0
• DVD±RW±R combo drive		1
Communication interfaces		
• PROFIBUS/MPI; 2 x Gbit Ethernet, 2 MB NV-RAM		A
• PROFINET (3 x RJ45, CP1616-compatible); 2 x Gbit Ethernet, 2 MB NV-RAM[6]		B
Operating system		
• Without operating system[1]		A
• Windows 2000 Professional Multi-Language[2] [3]		B
• Windows XP Professional Multi-Language[2]		C
• Windows Vista Ultimate Multi-Language[5]		D
• Windows Server 2003 Standard Edition incl. 5 Clients MUI[7], SP1 (SP2 enclosed)		E
• Windows XP embedded (English)[4] on 2 GB CF card		F

1) Not with internal second CF card slot
2) Multi-language means: D/E/F/I/SP/CHIN traditional/CHIN simplified/Korean/Japanese
3) With Windows 2000, only one core can be used with the dual-core processors
4) Only without RAID 1 option
5) Multi-language means: D/E/F/I/SP; other languages only by downloading from Microsoft
6) Not with Windows 2000 Professional
7) Multi-language means: D/E/F/I/SP
Z) Subject to export regulations: AL: N and ECCN: 5D992

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Ordering data

		Order No.
Delivery variants (from stock)		
12“ TFT Touch 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 870-0BC20-1AC0**
12“ TFT Key 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 871-0BC20-1AC0**
15“ TFT Touch 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 872-0BC20-1AC0**
15“ TFT Key 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 873-0BC20-1AC0**
17“ TFT Touch 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 874-0BC20-1AC0**
19“ TFT Touch 110/230 V AC power supply Core 2 Duo T5500, 1.66 GHz, 2 x PCI, 1 GB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 875-0BC20-1AC0**
12" TFT Key with DC power supply 24 V DC power supply Celeron M440, 1.86 GHz, 2 x PCI 512 MB RAM, 80 GB HDD, DVD ± R ± RW burner PROFIBUS/MPI Windows XP Prof. MUI (SP2) (D/F/I/SP/CHN traditional/CHN simplified/Korean/Japanese)	Z	**6AV7 871-0AA10-1AC0**

		Order No.
Accessories		
Cover foil for Panel PC 477/577/677(B)/Flat Panel, set of 10 each For protecting the touch screen against dirt/scratches		
• for 12" Touch		**6AV7 671-2BA00-0AA0**
• for 15" Touch		**6AV7 671-4BA00-0AA0**
• for 17" Touch		**6AV7 672-1CF00-0AA0**
• for 19" Touch		**6AV7 672-1CE00-0AA0**
Labeling foils for Panel PC 477/577/677(B) For labeling softkeys and function keys, blank, supplied in sets of 10		**6AV7 672-0DA00-0AA0**
Memory expansion		
• 1 GB DDR2	A	**6ES7 648-2AG40-0HA0**
• 2 GB DDR2	A	**6ES7 648-2AG50-0HA0**
Direct control key module for Panel PC 677(B)	A	**6AV7 671-7DA00-0AA0**
Option pack for direct control key module		**6ES7 648-0AA00-0XA0**
Transfer module for interface connection to 16 I/Os		
Non-heating apparatus cable for SIMATIC Box and Panel PC SIMATIC PC power cable, 230 V AC, angled, 3 m, for:		
• Germany		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• USA		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
• China		**6ES7 900-1FA00-0XA0**
Mounting elements for 17"/19" Panel PC 577, 677(B) For screw mounting of the 17" and 19" touch front from the front[1)]		**6AV7 672-8KE00-0AA0**
Touch pen Undetachable pen for operation of the touch devices, mounting of the support on the control cabinet	A	**6AV7 672-1JB00-0AA0**
36 months service option [2)] for SIMATIC Panel PC	Z	**A5E00509961**

A) Subject to export regulations: AL: N and ECCN: EAR99H
Z) Subject to export regulations: AL: N and ECCN: 5D992
1) No longer necessary for the 19" touch front from approximately December 2008
2) Service option can be activated up to 90 days after delivery. For a description of the service, refer to the appendix

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SIMATIC Panel PC 677B (incl. INOX)

Ordering data

		Order No.
Expansion components		
SIMATIC PC/PG DiagMonitor V4.0 Software tool for monitoring SIMATIC PCs, incl. manual, on CD-ROM (German/English)		**6ES7 648-6CA04-0YX0**
SIMATIC PC Image Creator V2.1 Software tool for data backup for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	B	**6ES7 648-6BA02-1YX0**
SIMATIC PC Partition Creator V2.1 Software tool for hard-disk partitioning for SIMATIC PCs, incl. manual, on CD-ROM (Eng/Ger/Fr/Sp/It)	B	**6ES7 648-6AA02-1YX0**
SIMATIC PC USB FlashDrive 2 GB, USB 2.0; metal enclosure, bootable	A	**6ES7 648-0DC40-0AA0**
3.5" disk drive, USB With 1 m connecting cable		**6FC5 235-0AA05-1AA2**
SIMATIC Panel PC Remote Kit for the separate configuration of control unit and PC		
• 24 V DC, 5 m	A	**6AV7 671-1EA00-5AA1**
• 24 V DC, 10 m	A	**6AV7 671-1EA01-0AA1**
• 24 V DC, 15 m	A	**6AV7 671-1EA01-5AA1**
• 24 V DC, 20 m	A	**6AV7 671-1EA02-0AA1**
• 24 V DC, 30 m	A	**6AV7 671-1EA03-0AA1**
• 110/230 V AC, 5 m	A	**6AV7 671-1EA10-5AA1**
• 110/230 V AC, 10 m	A	**6AV7 671-1EA11-0AA1**
• 110/230 V AC, 15 m	A	**6AV7 671-1EA11-5AA1**
• 110/230 V AC, 20 m	A	**6AV7 671-1EA12-0AA1**
• 110/230 V AC, 30 m	A	**6AV7 671-1EA13-0AA1**
Industrial USB Hub 4 4 x USB 2.0 interfaces, IP65 for control cabinet door or DIN rail assembly	A	**6AV6 671-3AH00-0AX0**

A) Subject to export regulations: AL: N and ECCN: EAR99H
B) Subject to export regulations: AL: N and ECCN: EAR99S

	Order No.
Uninterruptible power supplies	
SITOP power, 15 A DC UPS module, with USB port with charger unit for 24 V lead battery, input 24 V DC/16 A, output 24 V DC/15 A	**6EP1 931-2EC41**
SITOP power, battery module 24 V/3.2 Ah for DC UPS module 15 A	**6EP1 935-6MD11**
Communication components	
PCI interface card With COM1, COM2 and LPT interfaces	**6ES7 648-2CA01-0AA0**

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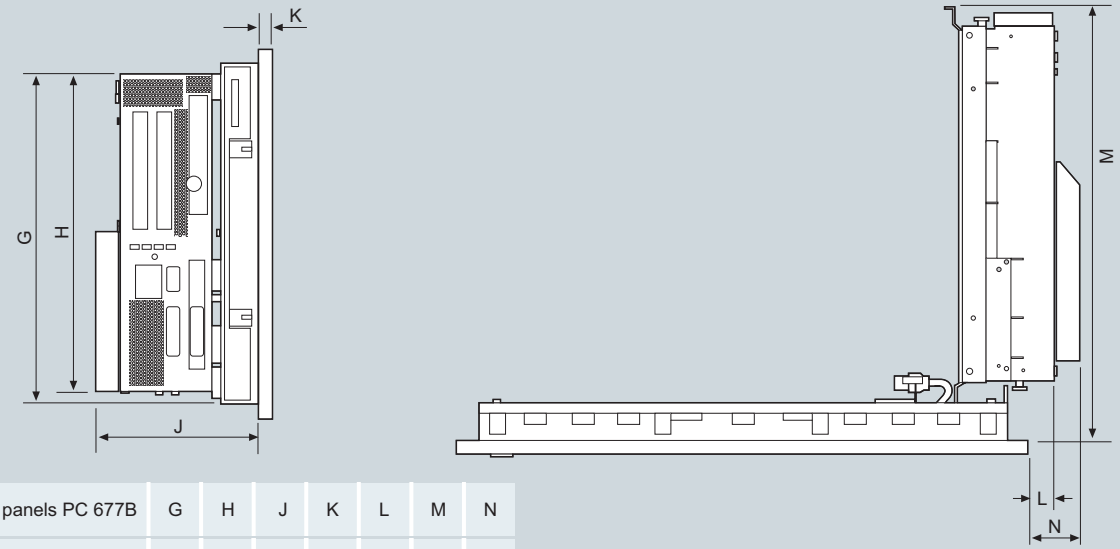
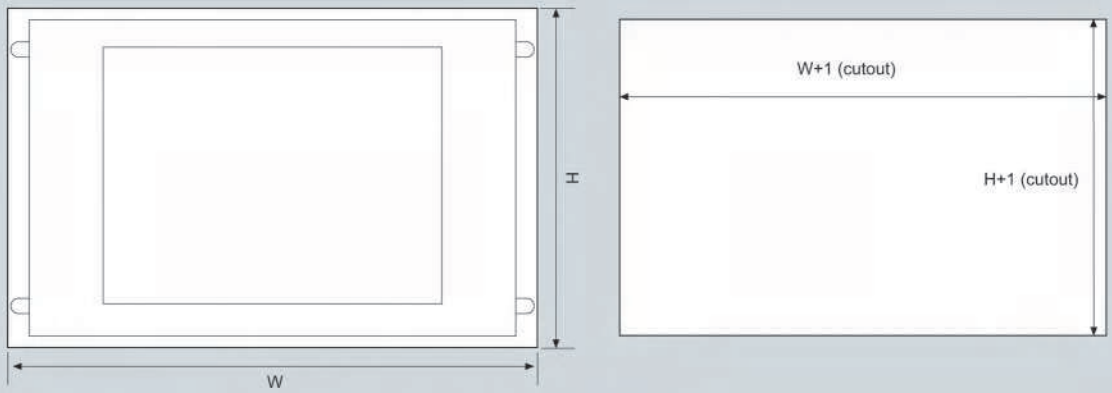
Dimensions



Operator panels PC 677B	G	H	J	K	L	M	N
Touch panels							
12"	289	271	141	11	53	369	71
15"	289	271	138	11	24	367	42
17"	378	271	147	11	18	376	36
19"	378	271	147	11	18	376	36
Key panels							
12"	289	271	122	11	42	351	59
15"	324	271	141	11	31	370	48

All dimensions without screw protrusions

Operating unit and complete unit



Front dimensions	W	H
Touch panels		
12"	400	310
15"	483	310
17"	483	400
19"	483	400
Key panels		
12"	483	310
15"	483	355

Installation cutout	W+1	H+1	D
Touch panels			
12"	368	290	51
15"	450	290	55
17"	450	380	57
19"	450	380	57
Key panels	W+1	H+1	
12"	450	290	
15"	450	321*	

* In addition: two 25 x 5 mm recesses on the top side of the keyboard, for slide-in label channels

Installation cutout

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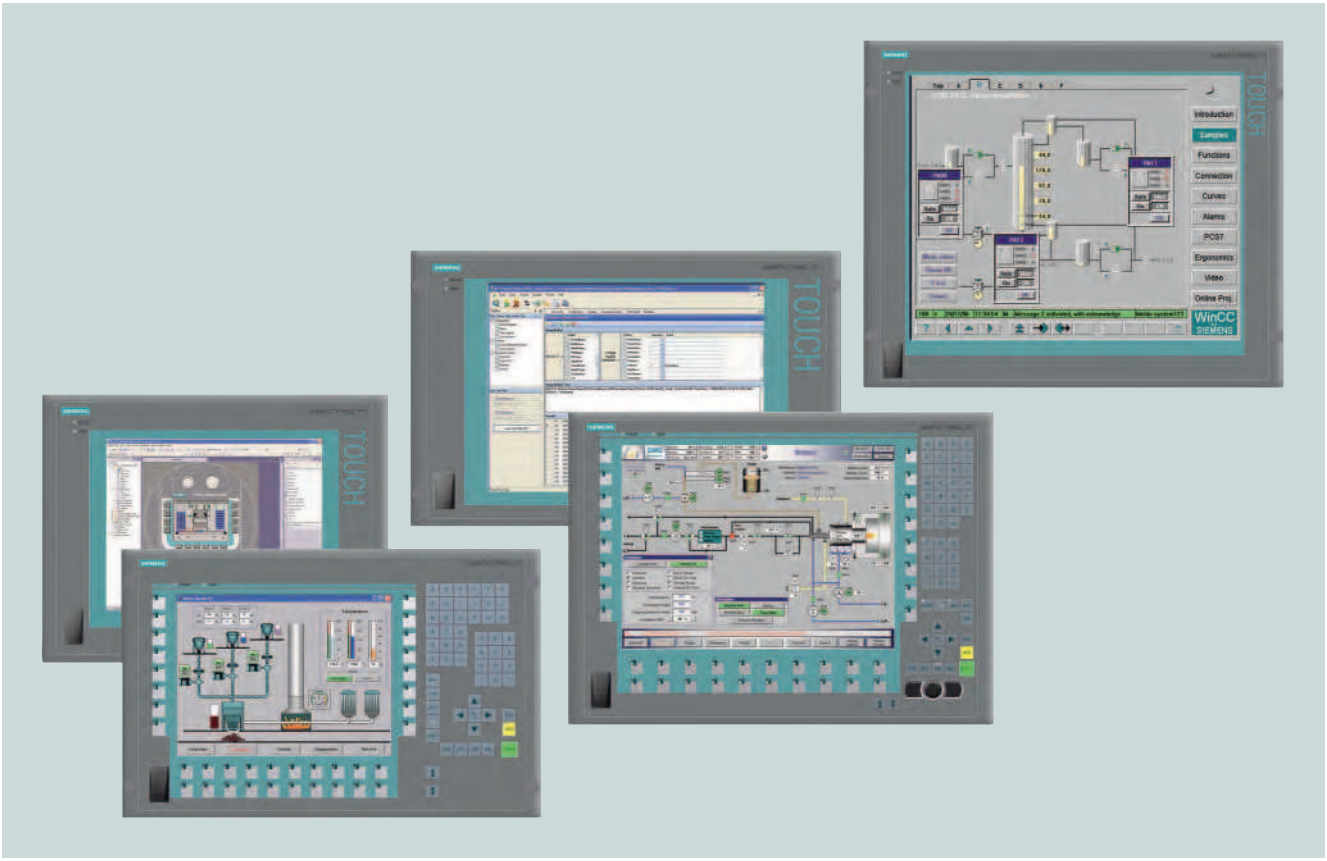
HMI packages with WinCC flexible and WinCC

Overview



SIMATIC Panel PC with SIMATIC WinCC flexible

- SIMATIC Panel PC packages with WinCC flexible are an innovative solution for simple visualization tasks directly at the machine in the field of HMI.
- This package can only be supplied if a Panel PC is ordered together with the WinCC flexible Runtime software. It cannot be ordered subsequently.
- In combination with the Panel PC 477B there are turn-key solutions, i.e. the runtime software is already preinstalled.

SIMATIC Panel PC with SIMATIC WinCC

- The SIMATIC Panel PC packages with WinCC make it easy to order all the components required for an HMI solution on the basis of a Panel PC.
- This package can only be supplied if a Panel PC is ordered together with the WinCC software. It cannot be ordered subsequently.
- In conjunction with the Panel PC 477B, there are turnkey solutions as WinCC Standard Clients.

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Ordering data

		Order No.	
SIMATIC WinCC flexible Package[1) 2)] **(incl. Archives and Recipes)**	Z	**6AV6 623 - 2** ■	**A00 - 0AA0**
WinCC flexible 2008 Runtime			
• 128 Power Tags		**B**	
• 512 Power Tags		**D**	
• 2 048 Power Tags		**F**	
• 4 096 Power Tags		**G**	
SIMATIC WinCC Package[1)]	Z	**6AV6 382 - 2** ■	**A06 - 2AX0**
WinCC V6.2 Runtime[2)]			
• 128 Power Tags		**C**	
• 256 Power Tags		**D**	
• 1 024 Power Tags		**E**	
• 8 192 Power Tags		**H**	
• 65 536 Power Tags		**F**	
SIMATIC WinCC Package[1)]	Z	**6AV6 382 - 2** ■	**A07 - 0AX0**
WinCC V7.0 Runtime [2)]			
• 128 Power Tags		**C**	
• 512 Power Tags		**D**	
• 2 048 Power Tags		**E**	
• 8 192 Power Tags		**H**	
• 65 536 Power Tags		**F**	

		Order No.
Ready-to-use Panel PC 477B as a WinCC Standard Client		
WinCC V7.0 is already installed and set up on the 4 GB compact flash card as a standard client. The Panel PC 477B has a 24 V DC power supply and has 2X Ethernet 1 Gbit/s, 4X USB 2.0, 1x COM1 (RS232). Available solutions:		
• 15" Touch, Celeron 1.0 GHz processor with 1 GB of main memory	E	**6ES7 676-3DA20-0DS0**
• 15" Touch, Pentium M 1.4 GHz processor with 2 GB of main memory	E	**6ES7 676-3GA30-0DS0**
• 19" Touch, Celeron 1.0 GHz processor with 1 GB of main memory	E	**6ES7 676-6DA20-0DS0**
• 19" Touch, Pentium M 1.4 GHz processor with 2 GB of main memory	E	**6ES7 676-6GA30-0DS0**

E) Subject to export regulations: AL: N and ECCN: 5D002ENC3
Z) Subject to export regulations: AL: N and ECCN: 5D992
1) Only if ordered with a Panel PC
2) The current version will always be supplied

Note:

For ordering data for Panel PCs and accessories, see configurators in "SIMATIC Panel PCs"

More information

Additional information is available in the Internet under:

http://www.siemens.de/simatic-hmi

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Customized SIMATIC Rack PC and Box PC

Overview

Our SIMATIC PC Customization Centers convert the field-proven SIMATIC PCs into individualized products and systems for you – tailored precisely to your specific needs. Our portfolio ranges from individualized design, through software installation and special tests or certifications, right up to just-in-time delivery. This provides you with more **time** for your own projects while improving your **profitability** and thus your **competitive advantage**.

Customized SIMATIC PC – precisely tailored to your requirements

Benefits

You save time, because...

- You can use our extensive customer know-how and our many years of experience with industrial PCs.
- You don't have to build up industrial computer know-how and can therefore concentrate fully on your own core areas of expertise.

You increase your return on investment because...

- You can limit investment of your capital and resources to your core areas of expertise.
- You achieve reliable, on-time material disposition and logistical planning through our logistical services.
- You have the highest possible investment security thanks to top quality, long-term availability and continuity with the SIMATIC PC.
- You save unnecessary costs thanks to tailored solutions.
- You profit from worldwide service and support concepts with SIMATIC PC.

You increase your competitive advantage because...

- You use industrial PCs that meet the highest quality standards, offer optimum performance and enhance your productivity by reducing standstill times.
- You obtain customized SIMATIC PCs that perfectly link into the "Totally Integrated Automation" (TIA) system.
- You stand out not only thanks to exceptional technology, but also due to the individual design of your machine, e.g. with a logo printed on the front casing of the industrial PC.

Application

Our competence = Your benefit
Customized Hardware
Customized Software
Customized Service & Support
Customized Logistics
Customized products on the basis of the tried-and-tested SIMATIC PC standards
SIMATIC Box PC
SIMATIC Rack PC

Customized Hardware – Individual in design and configuration

Customized design

- **Inscription or printed logo**, e.g. on the front cover of the housing, matches your corporate design requirements
- **Custom color design of housing**, individual housing components, e.g. housing front and front cover – for perfect optical integration of the PC in the operating environment

Customer-specific configuration

- **Optimization of the computer configuration** – corresponding to the requirements of your application, e.g. with or without PROFIBUS interfaces or optical drives
- **Optimal selection of the required components** – with regard to performance capability, long-term availability and compatibility, e.g. processor, fan, work memory, etc.
- **Installation of the hardware you specified** – e.g. third-party hardware such as drives and PC cards or customized, supplied hardware

Customized Software – operating systems, drivers, image

Generation of operating systems

- e.g. for Windows XP embedded,
- and the RMOS3 real-time operating system from Siemens
- for customer-specific pre-installed LINUX operating system[1)]

Integration and installation of driver software and image storage

- e.g. for additional plug-in cards, controllers and memory media
- for complete, turn-key systems

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Application (continued)

Customized service and support

Pre-sales and after-sales support

- Requirements analysis, concept creation, solution generation
- Competent project support from the offer through to delivery and beyond
- Individual repair concepts
- Worldwide Siemens service network with 190 branches and 36 repair centers
- 24 hour product support over the SIMATIC Hotline

System test of hardware and software, e.g.

- **EMC chamber** – Test for electromagnetic compatibility
- **Thermal simulation** – Thermal simulation and heat imaging camera to detect heat pockets
- **Heat test** – Testing of all components in a 36-hour heat test at 40 degrees Celsius in a heated cabinet
- **Stress test** – Test for high vibration/shock loading, specially for CPU, graphics, memory, modules, etc.

Product Equipment Data (PED)

- **Online tool PED** (*www.siemens.de/ped*) – For easy, systematic identification and management of device components. It shows you the most important components of your equipment (delivery status) easily and quickly and supports you worldwide in the event of a servicing requirement with the procurement of suitable replacement parts.

Tempestierung (SITEMP)

- **TEMPEST (Temporary emanation and spurious transmission)** – For protecting compromising data from listening-in attacks by means of electromagnetic radiation
- Series measurements and certification of special PC hardware according to the standards of the German Institute for Safety in Information Technology (BSI) for radiation safety
- e.g. PC for processing highly sensitive research and development data

Certification and approval of hardware and software – e.g. UL and CE industry certification

On-site service – e.g. for plant failure, on-site repairs, product upgrades

Customized logistics

Availability tailored to your requirements

- **Configuration and design freeze** – Individual availability agreements for unchanged hardware and software versions of the products (image compatibility)
- **Replacement parts in centralized or decentralized spare parts storage** – For individually agreed periods or, where applicable, last-time buying and storage of components
- **License authorization** for discontinued software, e.g. for Microsoft operating systems such as Windows NT, MS DOS

Tailor-made right down to the detail

- **Change notices** – Individual agreements for customer information management, e.g. product discontinuation, version updates, phase-out announcements
- **Individual labeling** – On the industrial PC and/or product packaging, e.g. customized item/device/inventory numbers, warehouse barcodes or packing and safety instructions
- **Supply of accessories** – e.g. adapter cables, keyboards or accompanying documents and manuals

Individual logistics solutions

- **Kanban delivery** – We supply according to the requirements of the organization units in the production process of our customers who organize their production process control in accordance with the Kanban principle. This shortens the throughput time and reduces inventories.
- **Just in Time** – We reduce the inventories and throughput times of our customers by supplying the hardware manufactured customer specifically at exactly the time when they need them in the production process or in the logistics chain
- **Reusable packaging** – Better than recycling!
  The packaging is collected from our customers after the specially manufactured hardware has been unpacked and reused for transporting the next delivery. Packaging material is saved to the advantage of our customers and the environment.

1) Suitable for specific LINUX versions in accordance with the specifications of the Siemens manufacturer's declaration "Suitable for LINUX", see *http://www.siemens.de/simatic-pc/geeignet-fuer-linux*

More information

More information is available on the Internet at
www.siemens.com/customized-pc
or under the e-mail address
customized-pc.automation@siemens.com

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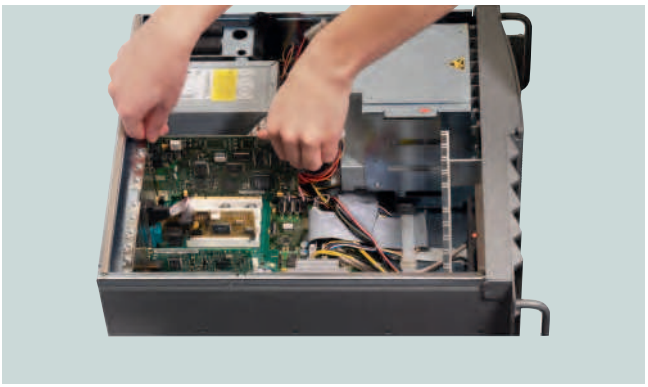
SIMATIC PC function cards

Overview



Function cards are PC modules that perform customer-specific extended functions. As they are already tested and qualified, they can be used in the same way as a standard product.

This enables fully-tested SIMATIC PCs with function cards to be delivered quickly without complications.

Function

Expansion cards are available for the following functions:

- PROFIBUS / PROFINET
- Serial interfaces
- Additional LAN ports
- Digital and analog I/Os
- Graphics expansions

Function cards for SIMATIC Box PC 627B/827B and SIMATIC Rack PC 547B/847B:

Bus system	Function card with
PCI	2 x RS 232 2 x RS 485 1 x LAN 10/100/1000 PROFIBUS DP PROFINET (4-port)
PCIe	4 x RS 232 (x1) 1 x LAN 10/100/1000 (x1) Dual Head graphic (x1)*

Function cards for SIMATIC Microbox PC 427B:

Bus system	Function card with
PC/104+	2 x RS 485 4 x RS 232 Central PC I/O: PC IO interface module for expansion with encoder/counter as well as PC IO digital modules and PC IO analog modules. In maximum configuration up to 120 analog IO interfaces, 320 digital IO interfaces and 12 encoder/counter interfaces can be integrated.

* For the SIMATIC Rack PC 847B the option of a graphics card is available via the standard configurator.

1) For restrictions see the supplement enclosed in the system.

More information

Please address any queries regarding the technical feasibility of the configuration with function cards to the Customization Center I IA SE IP CC

www.siemens.com/customized-pc

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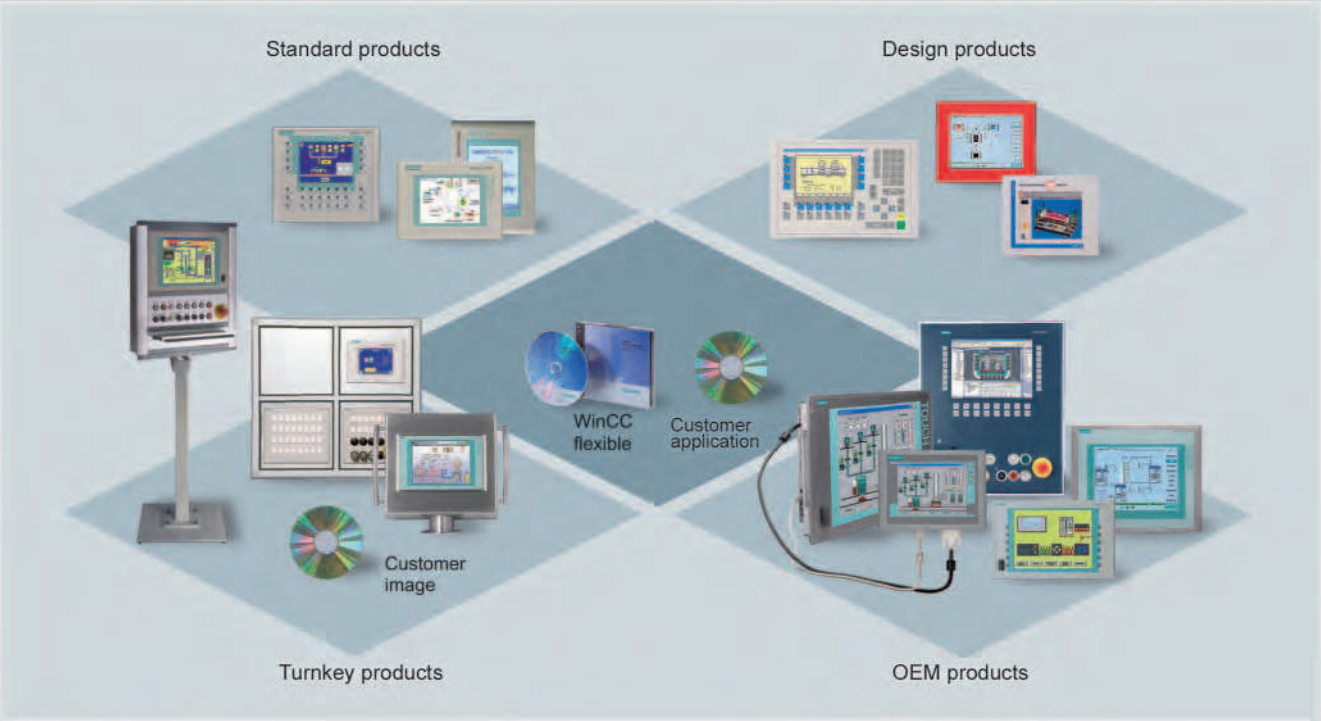
Overview



This gives an overview of customer-specific modifications of the SIMATIC HMI products with examples for the various sectors.

It includes both customer-specific product modifications for fulfilling individual requirements as well as product examples for selected sectors such as the automotive industry, general mechanical engineering, the food and beverages industry, and pharmaceuticals.

Design products

Customer-specific design involves structural modifications of SIMATIC HMI products for seamless adaptation to the individual machine and plant design and the special operating philosophy of the customers.

The possibilities for modification are:

- Changing the company logo and device type designation
- Changing the keyboard colors, key labels or key symbols
- Different housing color (front frame)

Design products are completely compatible with the technology and functionality of the standard products. The similar technology enables, among other things, replacement with standard devices in case of unit failure if the machine or plant supplier does not have a customized product available in their own spare parts store at the time.

OEM products

Product modifications for OEM (original equipment manufacturer) customers are suitable for individual industrial automation tasks that cannot be solved using standard products or panels that were simply modified in respect of their design.

OEM products are individual solutions based on SIMATIC HMI standard components. They are specified, offered, developed and supplied on an individual, customer-specific basis.

For this purpose, we simply combine – as in a system of building blocks - standard components, customized components and additional software function enhancements required to create a SIMATIC HMI OEM device.

Possible modifications:

- Changes to the keyboard layout, key size/design and key arrangement
- Freely-definable front dimensions and device mechanics
- Integration in the housing for desktop or support arm installations
- Different processors and memory media
- Different display technologies, sizes and resolutions
- Decentralized configuration
- Additional modules or interfaces
- Freely-selectable Windows versions as operating system, preinstalled SIMATIC HMI software packages

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Customized automation for SIMATIC Panel PC

Overview (continued)

It is frequently the case, however, that new OEM products can be based on existing OEM products (see product examples) efficiently and cost-effectively. In such cases, the end product is considered to be a customer-specific modification of an existing OEM product.

Our OEM devices are available in all performance classes: from OEM Push Button Panels through Text Displays, Touch and Operator Panels right up to multifunctional platforms (MP) and Panel PCs with far-reaching changes in hardware, equipment and software. Customer-specific OEM products are developed and produced in various stages in accordance with quality standards.

Turnkey products

The customer-specific turnkey products are ready to set up and switch on, combined and constructed according to the specifications of the customer and according to the specific technical requirements of the HMI products. With turnkey products, the HMI products are tested and supplied e.g. as complete operator stations, i.e. installed in special housings, wired and supplied with the specified software.

- Optimized HMI operator station: ergonomic, functional, certified and tested
- Optimum mechanical installation of devices, with defined high degree of protection
- Flexible design and wiring
- Variable installation (support arm, stand, wall mounting)
- Certified according to VDE, CE and UL (according to agreement and statutory directives)
- Vibration and shock-tested
- Packed for safe transport
- Tested thermal cycling with passive cooling, and therefore with specified ambient temperature
- Customized software suite with electronic software release management

Customized SIMATIC HMI turnkey products are "ready-to-install" and "ready-to-use" with the quality of series products, and all from one source:

Open Platform Program

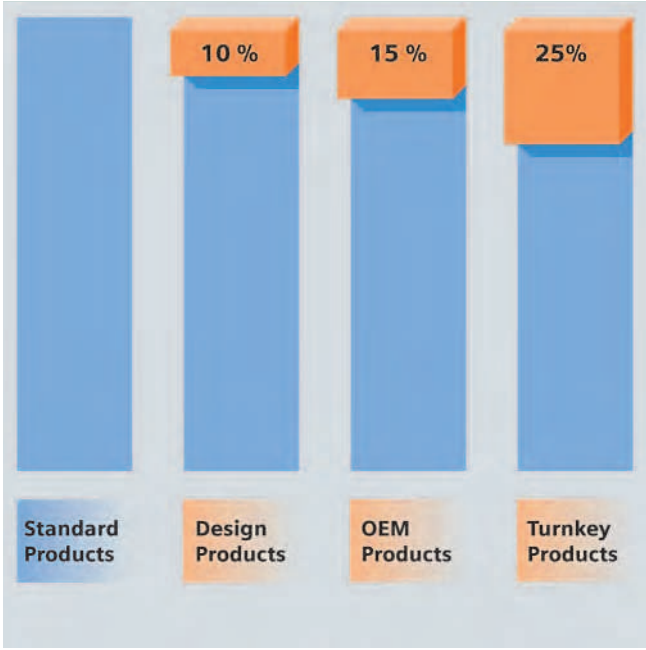
SIMATIC HMI panels with Windows CE operating system and panel PC are open for software function expansions from WinCC flexible or for customer applications.

Using the Open Platform Program, you have software tools (SDKs – Software Development Kits) including training and support for creating software expansions for WinCC flexible or your own customer applications. The Open Platform Program supports the optimum adaptation and fast implementation of customized hardware and software solutions:

- Customer applications
- Expansions of SIMATIC HMI software WinCC flexible using ActiveX controls
- Customer's specific project functions or tasks that interact with WinCC flexible

The basis is the SIMATIC HMI - WinCE platform, i.e. Windows CE-based SIMATIC HMI panels from TP 177B, as standard product or as OEM product and also Panel PC products. As an option, SIMATIC HMI panels can also be used as platforms for other CE software.

Share of customer-specific modifications in the individual product types



Product examples from the various industries

SIMATIC HMI products are provided with additional features in order to facilitate optimum use in specific sectors of industry. Stainless steel front panels for the food, beverages and tobacco industry are one such example. With the exception of their front panels, the devices are identical to standard products in respect of function and technology.

We can offer products for the following sectors:

- Automotive industry – HMI for factory automation
- General machine construction
- Food, beverages and tobacco industries
- Chemical and pharmaceutical industries.

Customized products for various industries are developed and produced in association with a customized product agreement.

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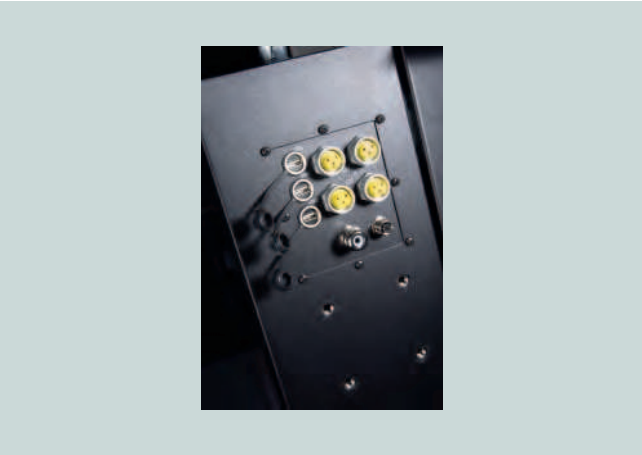
Overview

Front view with speakers



Interface module

Front view without speakers

Integrated Box PC

Benefits

The rugged design with large display is intended for industrial use and maintenance-free use. The Panel PC 677B with 46" display is therefore perfectly suitable for use as an information display for operator workstations, as quality data display, or as a plant overview system in the automobile and manufacturing industries, as well as in the pharmaceuticals industry and the logistics sector. It can be positioned for ease of viewing using a support arm system and operated easily by means of remote control.

Application

- Automotive and manufacturing industry
- Pharmaceuticals industry
- Logistics sector
- Industrial application

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Panel PC 677B 46"

Design

- Degree or protection IP65 on front/IP54 at rear
- Box PC 677B computing unit
- TFT LCD 46" with 4 mm laminated glass screen
- Anti-glare coating
- Welding splatter-proof front
- Powder-coated sheet-steel housing
- Suitable for fixing to support system
- Audio amplifier module for up to 3 speaker pairs
- 46" display suitable for use in industry
- Remote control software for operation
- Integral audio amplifier
- Interface module on the housing
- Low-noise operation without air conditioner up to 40 °C ambient temperature
- PC without hard disk and without CD for maintenance-free use
- Auto-refresh function for display.

Ordering data

	Order No.
Box PC 677B built into a housing Z together with a 46" TFT LCD (1366x768), Celeron M440, 1.86 GHz, 512 MB RAM, CF drive 1 GB, Windows XP embedded, without audio amplifier, without speaker, without air conditioner	**6AV7 466-0AC00-0AA0**
Box PC 677B built into a housing Z together with a 46" TFT LCD (1366x768), Celeron M440, 1.86 GHz, 512 MB RAM, CF drive 1 GB, Windows XP embedded, with audio amplifier, with speaker, without air conditioner	**6AV7 466-0AC20-0AA0**
Box PC 677B built into a housing Z together with a 46" TFT LCD (1366x768), Celeron M440, 1.86 GHz, 512 MB RAM, CF drive 1 GB, Windows XP embedded, without audio amplifier, without speaker, with air conditioner	**6AV7 466-0AC01-0AA0**
Box PC 677B built into a housing Z together with a 46" TFT LCD (1366x768), Celeron M440, 1.86 GHz, 512 MB RAM, CF drive 1 GB, Windows XP embedded, with audio amplifier, with speaker, with air conditioner	**6AV7 466-0AC21-0AA0**
Delivery time	8 weeks ex work
Minimum quantity	1
CA product agreement for delivery logistics	

Z) Subject to export regulations: AL: N and ECCN: 5D992

Customer-specific modifications:

- Choice of housing color
- Configurable computing units:
  - Box PC 677B (e.g. with HDD and XP Prof.)
  - Box PC 477B
- Without computing unit as flat panel
- Without audio module (without speaker and without audio module)
- With active heat sink for higher ambient temperatures >50 °C

More information

Contacts

Please contact your local/national Siemens HMI representative

More information is available in the Internet at

http://www.siemens.com/hmi-oem

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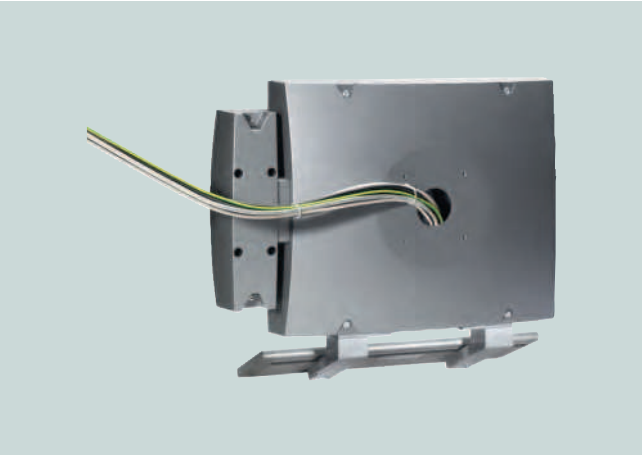
Overview

Flat Panel with backplane cover, front view



Flat Panel with backplane cover, rear view

PC 477B 15" with backplane cover, front view

PC 477B 15" with backplane cover, rear view

Benefits

The concept of the universal backplane cover is intended for flat HMI products, e.g.

PC 477B 12" Key,
PC 477B 15" Touch or
MP377 19"/Flat Panel 19" Touch/Display

- With VESA 100 on the rear for mounting on support system
- Additive housing to the right and/or left
- With operator controls, built into the additive housing
- Additive housing suitable for all backplane covers
- With stainless steel keyboard mounted on backplane cover
- With removable panel for easier access to cables
- The external dimensions (HxW) of the HMI products remain unchanged

Application

For general mechanical equipment manufacturing

Design

The backplane cover is fitted with a VESA-100 connection on the rear

- Assembly
  - On the support arm
  - On the supporting foot (desktop or floor)
  - Direct at the machine, thus also appealing to series machine manufacturers
- Cables can also be run direct through the VESA connection and the support arm/supporting foot

Backplane cover will have flat appearance

- Industrial character will be emphasized

Within the scope of customized projects – additional housings and thus the option of attaching additional operator elements such as:

- Pushbuttons
- Switches
- Lamps
- Emergency-stop facilities

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Backplane cover

Technical specifications

Backplane covers in die-cast aluminum housing		
	Dimensions (W x H x D in mm)	Weight of backplane cover (in kg)
Backplane cover PC 477B 15" Touch/12" Key	483 x 310 x 122	Approx. 5.5
PC 477B 15" Touch with backplane cover	483 x 310 x 133	Approx.14
PC 477B 12" Key with backplane cover	483 x 310 x 133	Approx. 13
Backplane cover MP377 19"/Flat Panel 19" Touch/Monitor	483 x 400 x approx. 120	Approx. 4.5
Flat Panel 19" Touch with backplane cover	483 x 400 x 130	Approx. 15
Additive housing suitable for all cover models	90 x 309 x 89	Approx. 1.3

Ordering data

		Order No.
Backplane cover	A	**6AV7 672-4GD00-0AA0**
Delivery time		
Minimum quantity		1
CA product agreement		
Repairs and spare parts		

A) Subject to export regulations: AL: N and ECCN: EAR99H

More information

Contacts

Please contact your local/national Siemens HMI representative.

More information is available in the Internet at

http://www.siemens.com/hmi-oem

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Overview

The Mobile Panel PC 12" IWLAN is a useful extension of the mobile devices in the direction of the open operator station. It is based on Windows XP and offers by reason of its flexibility and outstanding performance the most diverse application options.

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Mobile Panel PC 12" IWLAN

Benefits

With the operating system Windows XP, the high-performance 1.06 GHz Meron Dual Core processor and the 120 GB hard disk, the best conditions for high-performance logistics, visualization and automation tasks are created.

The device communicates in mobile applications per WLAN or Class 2.0 Bluetooth and is therefore, for example, optimally equipped for service applications.

The following important points should additionally be mentioned: The device is easy to handle and has a low weight. The device has compact dimensions despite the large display. Whether you're talking maintenance of machines or large plants, order picking in the logistics area, or plant visualization, the SIMATIC Mobile Panel PC 12" IWLAN can meet your demands.

Application

Wireless connection to:

- Bluetooth
  - Mouse and keyboard
- WLAN
  - Connection to the local access point
  - Company network/Internet
  - PROFINET

The device can be used in different areas of application:

- Logistics, transport, airports
- Healthcare, outpatient clinic
- Fire department, service, sentry, police
- Production, manufacturing.

Design

The absolutely rugged construction is especially designed for industrial applications. With the degree of protection IP54 all around and an extremely shockproof and ergonomic housing made of die-cast magnesium, even falls from up to 0.9 m cannot harm the Mobile Panel PC.

High performance

- 12.1'' TFT display
- Touch screen
- Intel Dual Core processor 1.06 GHz (Merom)
- Main memory: 1 or 2 GB RAM
- HDD 120 GB.

Easy to handle

- Dimensions (W x H x D) mm: approximately 330 x 240 x 55
- Weight: approx. 2.4 kg
- Ergonomic handling.

Durable

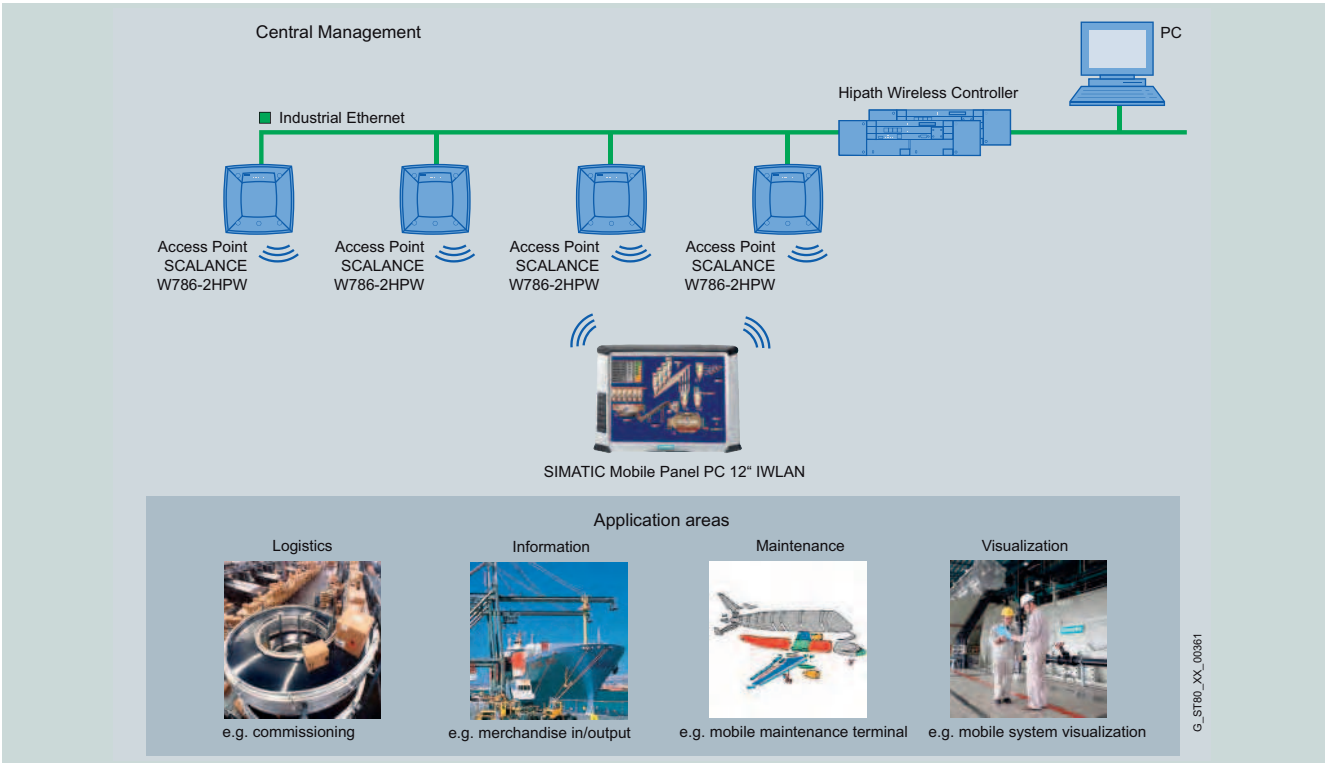
- ACCU operation (4h continuous duty)

Easy contact

- LAN 10/100
- WLAN (IEE 802.11 a/b/g/n draft)
- Bluetooth 2.0
- USB 2.0
- Line In / Out
- Operating system: Windows XP
- 4 hardware keys (programmable)
- Express-Card Slot (35 mm).

Rugged

- Fanless
- Operating temperature: 0 °C to 40 °C
- Degree of protection: IP54
- Rugged: Height of fall 0.9 m
- Magnesium die-cast housing.



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Ordering data

		Order No.
Mobile Panel PC 12" IWLAN BASIC WLAN Europe (MOW 2)	Z	**6AV7 460-3AA00-0AA0**
Mobile Panel PC 12" IWLAN TOP WLAN Europe (MOW 2)	Z	**6AV7 460-3AA01-0AA0**
Delivery time		Auf Lager - LZN
Minimum quantity		1
CA product agreement		Ab 10 Stück p. a.
Repairs and spare parts		Nämlichkeitsreparatur
Docking Station for Mobile Panel PC 12" IWLAN (BASIC + TOP)	Z	**6AV7 673-0GC00-0AA0**
Delivery time		Auf Lager - LZN
Minimum quantity		1
Repairs and spare parts		Nämlichkeitsreparatur
SCALANCE W-786 Access Points		
IWLAN access points with built-in wireless interfaces; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-40 … +70 °C); scope of delivery: Mounting hardware, 48 V DC terminal block; manual on CD-ROM; German/English;		
SCALANCE W786-1PRO		
IWLAN Access Points with built-in wireless interface RJ45 connection		
Two internal antennas		
• National approvals for operation outside the U.S.A.	X	**6GK5 786-1BA60-2AA0**
• National approvals for operation within the U.S.A.	X	**6GK5 786-1BA60-2AB0**
PS791-2DC power supply	A	**6GK5 791-2DC00-0AA0**
24 V DC power supply for installation in SCALANCE W-786 products; operating instructions in German/English		
PS791-2AC power supply	A	**6GK5 791-2AC00-0AA0**
110 … 230 V AC power supply for installation in SCALANCE W-786 products; operating instructions in German/English		

	Order No.
SCALANCE W-784 Access Points	**6GK5 784-1AA30-... (see Catalog IK PI)**
IWLAN access points with built-in wireless interfaces; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP30 (-20 … +60 °C); scope of delivery: Mounting hardware, 24 V DC terminal block; manual on CD-ROM; German/English	
SCALANCE W-786 Access Points	**6GK5 786-... (see Catalog IK PI)**
IWLAN access points with built-in wireless interfaces; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-40 … +70 °C); scope of delivery: Mounting hardware, 48 V DC terminal block; manual on CD-ROM; German/English;	
SCALANCE W-788 Access Points	**6GK5 788-... (see Catalog IK PI)**
IWLAN access points with built-in wireless interfaces; wireless networks IEEE 802.11b/g/a/h at 2.4/5 GHz to 54 Mbit/s. National approvals; WPA2/AES; Power over Ethernet (PoE), degree of protection IP65 (-20 … +60°C); scope of delivery: 2 ANT795-4MR antennas, IP67 hybrid plug-in connector, mounting hardware, manual on CD-ROM, German/English	

A) Subject to export regulations: AL: N and ECCN: EAR99H
X) Subject to export regulations: AL: 5A002A1A2 and ECCN: 5A002ENC3
Z) Subject to export regulations: AL: N and ECCN: 5D992

Customer-specific modifications

Customer-specific color specification:

- Customer-specific logo on the housing
- Color customization of the entire mobile set (including rubber buffer)
- Color customization of the docking station.

More information

Contacts

Please contact your local/national Siemens HMI representative.

More information is available in the Internet at:

http://www.siemens.com/hmi-oem

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RMOS3 V3.50 real-time operating system

Overview

RMOS3 is the real-time and multitasking-capable operating system from Siemens for implementing your automation solution with the programming languages C and C++. In mechanical engineering or in the manufacture of machine tools RMOS3 is used in test beds, packaging or printing machines where high response times in conjunction with open and closed-loop control tasks are required.

The new RMOS3 real-time operating system is characterized by increased security thanks to memory protection, minimum interrupt response times and fast hard disk access.

With the new RMOS3 V3.50 version, Core 2 Duo processors are now also supported. The "Symmetric Multicore Processing" (SMP) mode makes it possible to implement complex applications that are simultaneously processed on multiple processor cores. RMOS3 V3.50 ensures that the cores are symmetrically utilized so that a performance increase of up to 100% can be achieved on the SIMATIC PC with Core 2 Duo processors.

For SIMATIC PC, automation solutions based on C/C++ with demands for hard real time, deterministic response and high performance can now be created more easily, conveniently and with greater stability.

RMOS3 has been optimized for use on PC platforms in embedded systems and fulfills industrial requirements with respect to:

- Real-time and multitasking capability
- Deterministic features
- Ruggedness
- Scalability/memory requirements
- Operation with or without an operator
- Modern development tools
- Quality assurance
- Warranty conditions
- Service & Support

Benefits

More performance through Symmetric Multicore Processing (SMP)

- Through the support of Core 2 Duo processors, complex applications can be processed simultaneously on multiple cores of the processor
- The symmetric utilization of multiple cores through RMOS3 ensures a performance increase of up to 100% (combining SIMATIC PC with Core 2 Duo processors)
- The implementation of existing applications can be limited to one core if required: Effects such as deadlocks or CPU hopping can thus be avoided without changing the tried-and-trusted application

Reliable execution of the programs ensures high availability of the system

- Memory protection for programs in FLAT memory module (GNU) through MMU (Memory Management Unit) for even greater reliability of execution for the user applications generated from RMOS3-GNU V2.1 using the development tools.
- Privilege level mechanisms for protection of the operating system code, operating system data and the operating system stacks from unauthorized access from user programs ensure reliable execution of the operating system
- Protected code areas for all applications implemented with paging mechanisms prevent unintentional, mutual overwriting of the program code, make program errors easier to find and reduce the time spent troubleshooting
- Stack overflow /underflow monitoring detects encroachment beyond the valid stack area for the application. Invalid memory accesses are prevented.
- Null-pointer detection prevents the use of uninitialized pointer variables
- Compatibility with existing programs (CAD-UL, GNU) thanks to starting in kernel mode

Greater industrial compatibility thanks to high-speed data access on a rugged system

- Resistant to viruses, due to the closed system
- UDMA hard disk driver for rapid back-up of large data volumes
- Support of High Precision Event Timers (HPET) for long-term accurate time output for logging time events
- Support for APIC interrupt controllers with up to 24 high-performance interrupts for optimized utilization of the interrupt resources and improved real-time properties of the overall system
- Task cycle times starting with 10 microseconds permit the fastest control cycles on a task level
- Support for interrupt sharing on the PCI bus for the use of PCI modules

Quick and easy start-up enhances user friendliness and serviceability

- Expanded configurable nucleus for the shortest start-up times on SIMATIC PC
  - Configuration over RMOS.INI is 100% compatible to RMOS3 V3.40
  - Configurable, up to 2 GB RAM disk for backing up temporary data
  - Configurable APIC, UDMA and HPET support
- Output of additional messages in case of error permit a "post mortem" analysis at the developer's workstation without hindering production.
- 100% downward compatible operation system versions
- Revised integral RMOS3 debugger and resource reporter for enhanced evaluation of equipment units

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RMOS3 V3.50 real-time operating system

Application

Industrial automation with typical applications such as

- measurement and control technology,
- acquiring and processing data, signals or analog variables,
- positioning axes and calculating setpoint and actual values,
- and communicating with higher or lower level systems over widely distributed fieldbuses (TCP/IP, PROFINET IO, PROFIBUS DP, CAN),

requires that a process can respond to an event within a defined time, i.e. that the response to such an event can be accurately predicted and reproduced regardless of the current system load.

RMOS3 offers a comprehensive library of operating system calls and allows simple and fast implementation of your automation task in an object-oriented programming environment with the programming languages C and C++.

Design

RMOS3 impresses customers with its industrial compatibility as an embedded operating system for maximum response times in closed-loop and open-loop control tasks and is the basis for high-performance customer solutions with SIMATIC PC.

Due to the new features in version V3.50, such as support of "Symmetric Multicore Processing" on Core 2 Duo processors and long-term accurate time with the help of the HPET, its ruggedness, industrial compatibility and performance have been further enhanced. Memory protection for applications in the FLAT (GNU) memory module, APIC support for high-performance interrupt mode as well as UDMA support for faster access to mass memories are additional core elements of RMOS3.

In combination with the widely used GNU development tools and the Eclipse development environment, the development of C/C++ based automation solutions is even more efficient.

The configurable nucleus that has been available since RMOS3 V3.50 is already preconfigured and can be installed immediately and completely adapted to the hardware and software requirements of your target system via an initialization file. The configurable nucleus supports the PCs from the SIMATIC PC. The product range is perfectly aligned with the existing additional functions and hardware features.

With optional products and Board Support Packages (BSP) you can integrate additional functions and drivers into your application. The Board Support Package BSP-SIMATIC PC V2.1 is the complete package for operating the following SIMATIC PCs with RMOS3 V3.40:

- Microbox PC 420 and Microbox PC 427B
- Box PC 627 and Box PC 627B
- Box PC 840 V2 and Box PC 827B
- Rack PC 840 V2 and Rack PC 847B

The additional RMOS3-GNU software package is available for development and for testing applications for RMOS3. The new development platform is based on the GNU tool chain well-known and widely used in UNIX / Linux environments and contains all expansions necessary for developing RMOS3 applications. With the Eclipse development interface and the integrated graphical cross debugger creating applications for RMOS3 is now even easier than before.

The software package RMOS3-TCP/IP V2.3 provides libraries for a simple and quick creation of TCP/IP-, FTP- and web applications. Furthermore, the software package offers FTP- and Telnet-services for exchanging files and for remote maintanance of the RMOS3 system.

The RMOS3-GRAPHX V1.0 graphics package offers an extensive function library for window-oriented visualization solutions in a real-time and multi-tasking environment of RMOS3. It can easily and comfortably arrange control and display elements – as generally known under Windows / Linux – to an individual user interface.

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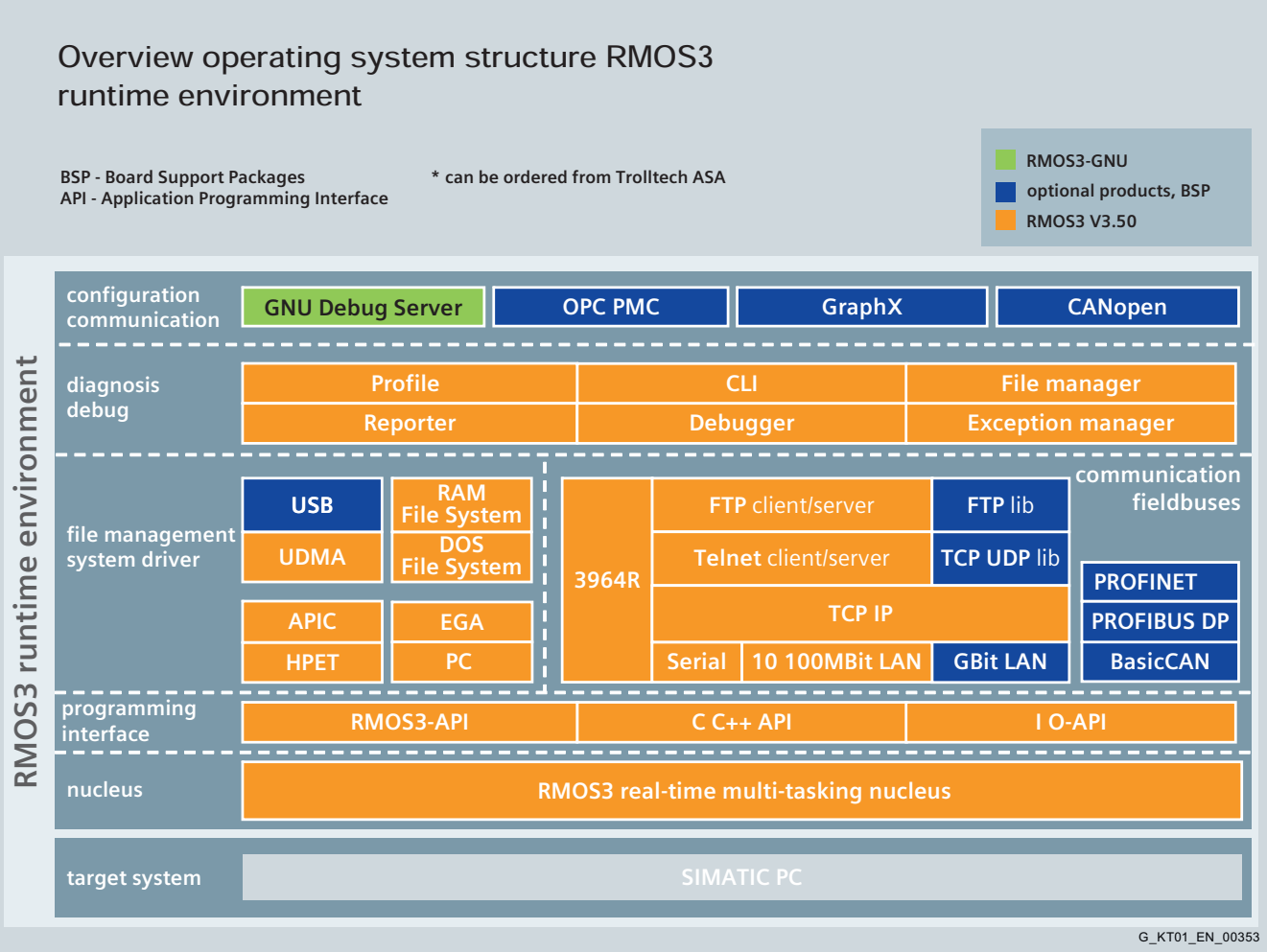
RMOS3 V3.50 real-time operating system

Design (continued)



Overview of the RMOS3 operating system structure

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Ordering data

		Order No.
RMOS3 V3.50 EL Single license for RMOS3 development environment incl. a RMOS3 runtime license	B	**6AR1 405-0EA00-1AA4**
RMOS3 V3.50 EL Update Update from V3.40 to V3.50. Single license for RMOS3 development environment incl. a RMOS3 runtime license	B	**6AR1 405-0EA50-1AA4**
RMOS3 V3.50 RT Simple RMOS3 V3.50 runtime license	B	**6AR1 403-0DA3**
RMOS3-GNU V2.1 EL Single license for the GNU development tools incl. compiler, linker, debugger and Eclipse IDE, special RMOS3 libraries for creating applications, project examples and documentation	B	**6AR1 405-0BA00-1BA1**
RMOS3-TCP/IP V2.3 EL Single license for TCP/IP communication • Application development with socket interface • Programming interface for FTP	B	**6AR1 403-0AN00-1AA3**
RMOS3-TCP/IP V2.3 EL Update Update from V2.1 to V2.3. Single license for TCP/IP communication • Application development with socket interface • Programming interface for FTP	B	**6AR1 403-0AN50-1AA3**
RMOS3-TCP/IP V2.x RT Simple runtime license for RMOS3-TCP/IP V2.0 and higher (necessary for user programs with socket interface)		**6AR1 403-1AN3**
BSP-SIMATIC PC V2.1 EL for RMOS3 Board Support Package for • SIMATIC Microbox PC 420/427B, • SIMATIC Box PC 627/627B, SIMATIC Box PC 840 V2/827B • SIMATIC Rack PC 840 V2/847B RMOS3 V3.50 Runtime license not included.	B	**6AR1 403-0BC00-1BA1**
BSP-SIMATIC PC V2.1 EL Update V2.0 to 2.1	B	**6AR1403-0BC50-1BA1**
BSP-SIMATIC PC V2.x RT Runtime license for Board Support Package for • SIMATIC Microbox PC 420/427B; • SIMATIC Box PC 627/627B, SIMATIC Box PC 840 V2/827B • SIMATIC Rack PC 840 V2/847B RMOS3 V3.50 Runtime license not included	A	**6AR1403-0BC3**
RMOS3-GRAPHX V1.0 EL Master license for graphics library for creation of window-oriented interfaces of RMOS3 Version 3.30 and higher	Z	**6AR1 403-0BG00-1AA0**
Qt Desktop Light Edition, Single Platform Windows development pack Qt Desktop Light Edition V4.1.4 fOr Windows, inCl. Qt Designer		obtainable from Trolltech ASA, www.trolltech.com
RMOS3 -GRAPHX V1.0 RT Runtime license for grafical surfaces with RMOS3		**6AR1 403-0BG3**

A) Subject to export regulations: AL: N and ECCN: EAR99H
B) Subject to export regulations: AL: N and ECCN: EAR99S
Z) Subject to export regulations: AL: N and ECCN: 5D992

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Introduction

Overview

The SIMATIC PC offers the user a wide range of types of construction and systems, which perfectly match the industrial applications and fulfill the high requirements concerning the ruggedness.

This includes:

- High temperature operating range up to 55 °C
- High vibratory/shock load
- Rugged housing design
- Special degrees of protection up to IP65, NEMA 4
- High electromagnetic compatibility (EMC)
- UL and CE mark for industrial application
- Integrated industrial power supplies (NAMUR)
- Service-friendly device mounting for fast change of defective components

Increased system availability – you can count on it!

We offer you a graded concept for an effective early detection of potential failures and for minimizing actual downtimes. It consists of special hardware and software expansion options developed for SIMATIC PC, with which you can individually increase the system availability according to your safety requirements. Its use is economical, as you gain more safety with components such as the DiagMonitor for permanent self-diagnostics or with a second hard disk for additional data back-up.These system availability options contribute to a considerable minimization of the plant's total costs (TCO) and is therefore economical and effective!

Benefits

Permanent high system availability by avoiding potential failures

Uninterruptible power supplies (UPS)

Our rugged industrial PC power supplies are designed for voltage drops of up to 20 ms (NAMUR). For longer power failures we offer you uninterruptible power supplies (UPS), which maintain the supply longer, e.g. to allow the system to be shut down in a controlled manner.

Flash disk as a safe mass storage medium

The system availability is further increased by using Compact Flash Drives instead of hard disks. These rugged mass storage media are approved for higher values of vibrations, shocks or temperature and offer an availability ten times higher than with hard disks. Flash disks therefore offer a safe protection for your operating system and your application.

RAID1 mirror disk system

The RAID1 configuration automatically saves all data at the same time on two hard disks. This is comfortable and offers you highest data safety.

Diagnostics and message functions with the SIMATIC PC DiagMonitor

The monitoring and message software SIMATIC PC DiagMonitor detects possible hard- and software errors at an early stage. Operating data of SIMATIC PC, such as temperature and fan speed, can be recorded over definable periods of time, complemented by integrated protocol functions as well as text messages and can be evaluated clearly in graphics. Extensive system conditons like watchdog, operating temperature, fan speed or hard disk conditions are automatically send via Ethernet, e-mail or SMS (phone) on demand. You can integrate and process this data in automation applications via OPC. The integrated time synchronization allows an operation of the industrial PCs without CMOS battery.This additionally reduces maintenance costs.

Permanent high system availability by minimizing downtimes

Second hard disk – makes your system run

The use of hard disks is often essential for memory intense applications. By using a second hard disk the user enjoys the following advantages:

- Easy and fast data back-up
- A fast reload of the last stored image shortens the downtime.
- By booting the back-up disk the system can immediately be driven on after a hard disk error.

Preventative data back-up

You can easily minimize downtimes and reduce your ongoing costs by preventative data back-up. The **SIMATIC PC/PG ImageCreator** can save complete hard disk contents of a PC and can restore them bit by bit in case of data loss.The **A&D-Data-Management-Software (ADDM)** executes automatic back-ups in highly-complex networked systems. With this software you can create complete versions, archive and reload your machine data at any time. The **SIMATIC PC/PG Partition Creator** serves for comfortable hard disk portioning with changes or initiation and for creating bootable emergency diskettes.

You can also work on duplicate and archive BIOS data effectively thanks to our **SIMATIC PC BIOS-Manager**. Proven PC configuration can easily be transferred to other PCs. The advantages of the BIOS-Manager are:

- Working on, duplication and restoration on site of BIOS data (CMOS data)
- No more time consuming reinstalling
- Easy transfer of proven software sizes to other PCs
- Fast complete change of device in the service case

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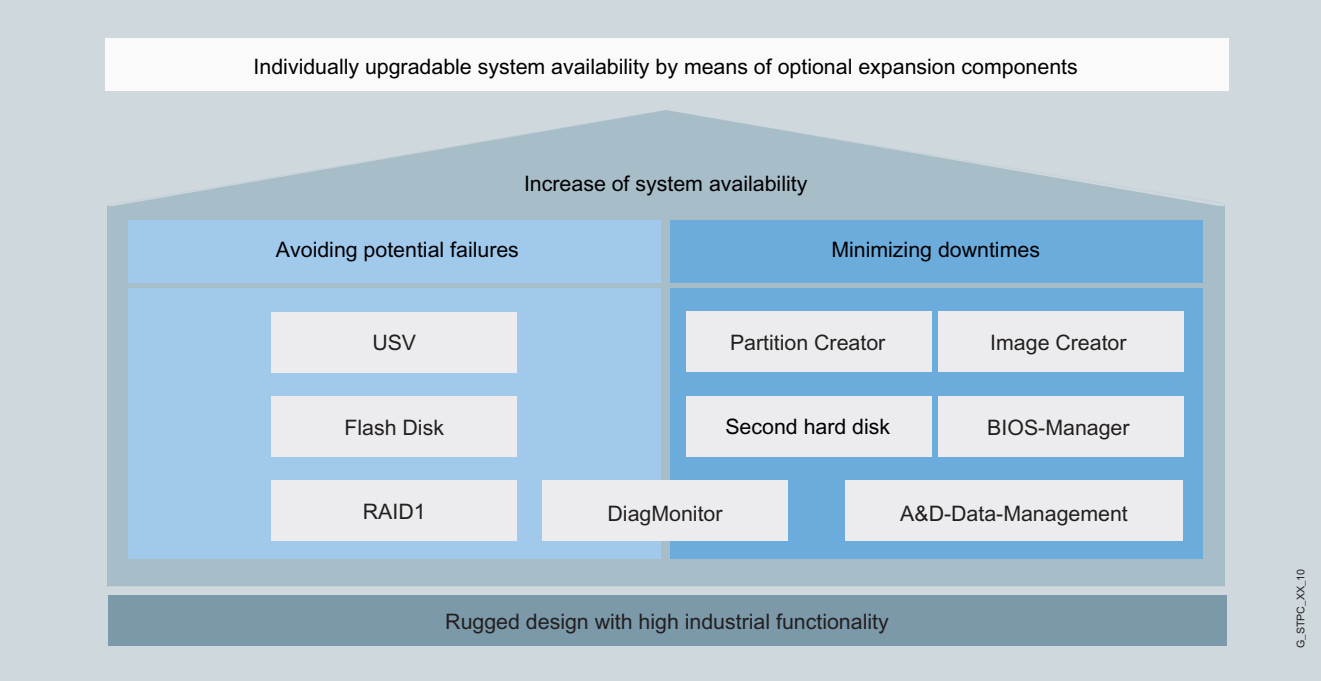
Integration



Product	SIMATIC PC DiagMonitor	SIMATIC PC BIOS-Manager	SIMATIC PC Image Creator	SIMATIC PC Image & Partition Creator	Second hard disk	RAID1 mirror disk	SIMATIC PC Compact Flash	ADDM Data Manage-ment
SIMATIC PCs								
SIMATIC Rack PC 547B	● 1)	●	● 1)	●	● 1)	● 1) 2)	–	●
SIMATIC Rack PC 647B	● 1)	●	● 1)	●	● 1)	● 1) 2)	●	●
SIMATIC Rack PC 847B	● 1)	●	● 1)	●	● 1)	● 1) 2)	–	●
SIMATIC Microbox PC 427B	●	●	–	●	–	–	● 1) 3)	●
SIMATIC Box PC 627B	● 1)	●	● 1)	●	● 1)	● 1) 2)	●	●
SIMATIC Box PC 827B	● 1)	●	● 1)	●	● 1)	● 1) 2)	● 1)	●
SIMATIC Panel PC 477B embedded	●	●	–	●	–	–	● 4)	●
SIMATIC Panel PC 577B	●	–	–	●	–	–	–	●
SIMATIC Panel PC 677B	●	●	–	●	● 1)	● 1) 2)	●	●

1) Can be ordered using configurator
2) RAID controller onboard
3) As alternative to hard disk
4) Only available with CompactFlash

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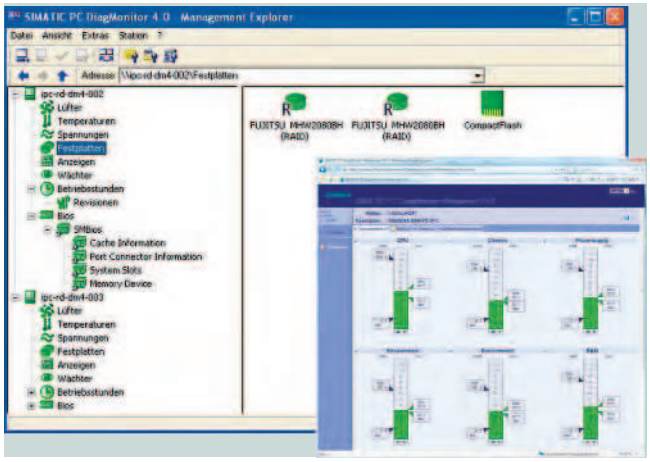
SIMATIC PC DiagMonitor

Overview



SIMATIC PC DiagMonitor: Intelligent and comprehensive diagnostics for SIMATIC PCs – local and remote.

The SIMATIC PC DiagMonitor software for monitoring and remote signaling detects possible hardware and software faults at an early stage. It monitors, signals and visualizes the operating statuses of the SIMATIC PC both locally and remotely.

DiagMonitor V4.0 is used with the following SIMATIC PCs:

- Microbox PC 427B
- Box PC 627B / 827B
- Rack PC IL 43 / 547B / 847B
- Panel PC 477B / 577B / 677B

The software can be:

ordered as individual product from stock (e. g. for server application on a third-party PC or for immediate integration into new systems) or as option according to the SIMATIC PC configurator (internet, mall) for future device generations.
(DiagMonitor V3.1 is used with SIMATIC Microbox PC 420/427B, Box PC 627/627B, Rack PC IL 43/840/847B, Panel PC 477/477B/677/677B/877 and can be ordered directly via the PC configurator or as individual product.)

Benefits

Investment security thanks to increased system availability

- Diagnostics and signaling functions for PC temperature, fan, hard disks (SMART), watchdog
- Operating hours counter for preventive maintenance
- Integral log function, comprehensive text messages, online help English/German
- Worldwide diagnostics over the Internet thanks to integrated web server function

Reduced costs thanks to reduced downtimes

- Fast information thanks to communication via e-mail and SMS
- Fast response thanks to communication in the application through OPC (client) and SNMP

Function

The SIMATIC PC DiagMonitor monitors, signals and communicates with an external server, acts in the event of an alarm and logs the system states of the SIMATIC PCs.

It monitors

- The processor and internal device temperatures
- Fans
- The system status by means of a "watchdog"
- The function of the hard disk or RAID1 through the S.M.A.R.T.-diagnostic bytes
- The future diagnosis-capable generation of the SIMATIC PC CompactFlash card

It signals

- The number of operating hours for activating maintenance periods
- Each alarm and logs it
- Overshoot/undershoot of permissible operating temperature
- Program interruption following a watchdog timeout
- Hard disk problems

It communicates

- Locally with an OPC client
- Locally via DLL or SNMP with a central server
- Remotely over LAN, by e-mail, text messages
- With diagnostic LEDs and 7 segment displays on the device
- Worldwide over the Internet through a web server

It acts in the event of an alarm

- By starting customer applications
- Through predefined applications (e. g. restart)

It logs

- All messages and commands in a log file automatically
- The measuring data (temperature, fan) over the operating period

It visualizes

- The recorded measuring data (with trend analysis)

It synchronizes

- System time over LAN (e.g. maintenance-free operation without CMOS battery)

Furthermore, customers have the option of creating their own applications via a programming interface.
When buying the SIMATIC PC DiagMonitor the user gets the SIMATIC PC web card free of charge as a useful supplement. The web card is part of the diagnosis software and gives own information on the SIMATIC PC via web server. It displays: device data, e. g. product designation, BIOS version, mainboard number, system status

System requirements:

Executes under Windows 2000/XP Professional/XP embedded, Win 2003 Server, Win Server 2003 R2, Windows Vista Ultimate/Business.

Ordering data

	Order No.
SIMATIC PC DiagMonitor V4.0 Software tool for monitoring the SIMATIC PC, incl. manual on CD ROM (English, German), single license	**6ES7 648-6CA04-0YX0**

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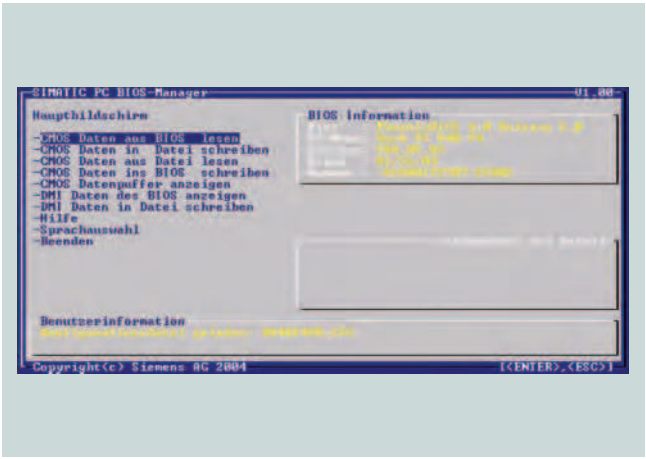
Overview



The SIMATIC PC BIOS Manager is a software tool that is used to process CMOS and DMI data from the BIOS configuration of a SIMATIC PC.

The tool is obtained by downloading it from the Internet using the Automation Value Card from Customer Support

http://www.siemens.com/simatic/bios-manager

Benefits

Productivity increase due to efficient and user-friendly BIOS data management

- CMOS data duplicated by means of reading out, saving in a file, writing to the CMOS
- CMOS data saved for documentation and restore purposes
- DMI data read out and saved as a text file (e.g. PC serial number)

Application

Wherever the SIMATIC PC is put to industrial use, it is expanded by both modules and software and the BIOS settings (CMOS data) modified accordingly. In this environment, the SIMATIC PC BIOS Manager is used as:

- Production tool
  - For quick configuration of identical CMOS data
  - Reading CMOS data from the BIOS
  - Saving CMOS data in a file tagged with a user text
  - Writing the saved CMOS data into BIOS
- Service/quality tool
  - Quick, simple storage of PC system data for QM purposes
  - CMOS data transferred to an end user
  - Uncomplicated CMOS restoration on site

Function

The SIMATIC PC BIOS Manager offers the following functions:

- reading CMOS data from the BIOS
- saving CMOS data in a file tagged with a user text
- writing the saved CMOS data into BIOS
- scanning BIOS DMI data
- saving BIOS DMI data in a text file (basic format for printer output)
- switching language (German/English)
- help function

System requirements:

The SIMATIC PC BIOS Manager executes with all SIMATIC PCs in combination with MSDOS 6.x or FreeDOS.

DOS (FreeDOS), which is necessary for creating a bootable diskette, is included in the download.

Ordering data

	Order No.	
SIMATIC PC BIOS-Manager Software tool for processing special BIOS data (CMOS, DMI data) for SIMATIC PCs	**as download from Customer Support** http://www.siemens.com/simatic/bios-manager	*The Automation Value Card will be debited with 50 points*

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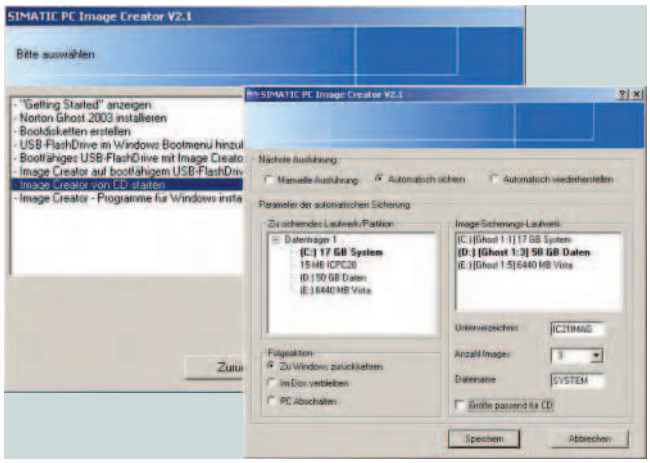
SIMATIC PC Image Creator

Overview



SIMATIC PC Image Creator is the software tool for quick and easy back-up and restoring of the content of hard disks (images of individual partitions or complete hard disks). This software can be ordered via the SIMATIC PC configurator or as an individual product via order number.

The product is designed for extremely easy handling:

- Executable on all SIMATIC PCs
- Operating system-dependent application by starting from own execution environment
- Direct starting by booting the CD, no installation required.
- Menu-driven creation of a bootable USB FlashDrive as an alternative start medium
- Menu-driven expansion of a USB FlashDrive with Partition Creator (and BIOS manager, if applicable) to "Tools Stick" with Image & Partition Creator (& BIOS manager)
- "1ClickImage" for routine backups, also time-controlled

Benefits

Data security at low cost

Hard disk contents can be saved quickly accurate to a bit and securely.

Reduced costs thanks to reduced downtimes

A significantly shorter time is required to restore a hard disk installation than is required for a new installation.

- After a hard disk is replaced, SIMATIC PCs are ready for operation again in just a few minutes.
- Software failures due to application errors, operator errors or computer viruses can be rectified in a matter of minutes.
- The most recently backed up hard disk contents are restored quickly, reliably and accurate to a single bit.

Application

SIMATIC PC Image Creator is used for preventive data backup of hard disk contents.

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Function

Basic functionality

- High-speed and accurate backup and restoring of hard disk contents. This restoration requires considerably less time compared to a reinstallation.
- Consistently integrated menus allow easy operation so that the user does not require specialist knowledge.
- SIMATIC PC Image Creator backs up the hard disk image optionally on :
  - Second partition
  - Second hard disk
  - CD/DVD burner drive
  - USB-CD/DVD burner drive or USB hard drive
  - A server or directly connected PC
- Image Creator can be started directly from the CD, with its full scope of functions, without the need for installation (exception: "1ClickImage" backup). In this case there is no change to the target system to be backed up, which rules out from the start the possibility of unwanted conflicts with the existing installation.
- Can be used on all SIMATIC PCs, regardless of the processor, memory or hard drive equipment
- SIMATIC PCs are supported automatically by integration of the correct drivers.
- The CD can also be booted from an external USB-CD/DVD drive (if supported by the device).
- If no CD/DVD drive is available, boot diskettes or a bootable USB flash drive (if supported by the device) can be set up as alternative execution media.
- Image Creator is based on Symantec Norton Ghost 2003.

Special product features

- Installation of Image Creator is possible in hidden area on the hard disk (requirement for "1ClickImage"). This means that Image Creator is always on board (--> no Image Creator CD or USB Flash Drive required). The following functions are then possible:
- Image Creator can be started in Windows (even if Ghost is not installed). In this case, Windows is shut down and Image Creator is booted from the hidden area of the hard disk.
- Complete backup via mouse double-click with "1ClickImage" after one-time setup of backup path.
  - This makes for an extremely simple backup procedure
  - The behavior of the PC after backup (e.g.: shut down, reboot Windows) can be determined when configuring the backup.
  - Log of backup procedure is maintained in a log file. This means you can check later whether an unsupervised backup has been performed correctly.
  - Versioning of the "1ClickImage" backups (administration of up to nine backups). This reliably protects older backup states from inadvertent overwriting.
- Time-controlled backup: The start of a previously configured complete backup via the Windows Task Planner enables regular, unsupervised backups at any times
- Creation of an "Image Creator Stick"
- When menu-driven, a USB FlashDrive can be set up as an execution medium for Image Creator. If BIOS Manager is installed on the USB FlashDrive, it is integrated into the operating menu.
- Generation of a "Tool Stick"
- Image Creator can be added onto an USB Flash Drive with BIOS Manager and/or Partition Creator. After booting the USB Flash Drive, you can then call Image Creator or Partition Creator or BIOS-Manager from a selection menu.
- Menu-driven generation of a Windows boot menu entry for the USB FlashDrive makes the migration of the booting sequence in favor of the USB FlashDrive in the BIOS unnecessary.

System requirements:

Can run on a SIMATIC PC with Windows 2000/XP/Vista

Note:

The standard installation of Ghost 2003 is not possible in Windows Vista. The backup and restoration of Vista systems from the Image Creator runtime environment is possible, however, without restrictions (also "1ClickImage").

Ordering data

	Order No.
SIMATIC PC Image Creator V2.1	Can be ordered using the SIMATIC PC Configurator with SIMATIC Rack PC 547B/847B and SIMATIC Box PC 627B/827B
SIMATIC PC Image Creator V 2.1 Software tool for preventive data backup for SIMATIC PCs, incl. manual on CD ROM (English, German, French, Spanish, Italian)	**6ES7 648-6BA02-1YX0**

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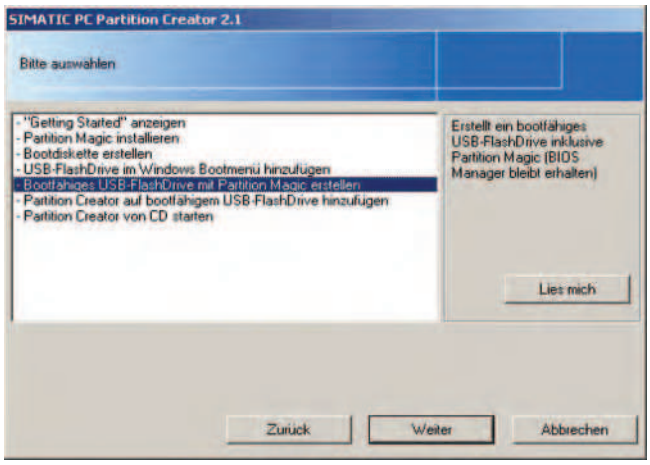
SIMATIC PC Partition Creator

Overview


SIMATIC PC Partition Creator 2.1
Bitte auswählen
- "Getting Started" anzeigen
- Partition Magic installieren
- Bootdiskette erstellen
- USB-FlashDrive im Windows Bootmenü hinzufügen
- Bootfähiges USB-FlashDrive mit Partition Magic erstellen
- Partition Creator auf bootfähigem USB-FlashDrive hinzufügen
- Partition Creator von CD starten
Erstellt ein bootfähiges USB-FlashDrive inklusive Partition Magic (BIOS Manager bleibt erhalten)
Lies mich
Zurück
Weiter
Abbrechen

SIMATIC PC Partition Creator is a software tool which enables easy post modification of hard disk partitions without loss of data.

The product is designed for extremely easy handling:

- Executable on all SIMATIC PCs
- Direct starting by booting the CD, no installation required
- Menu-driven creation of a bootable USB FlashDrive as an alternative start medium for the Partition Creator.
- Menu-driven expansion of a USB FlashDrive with Image Creator (and BIOS manager, if applicable) to the Tools Stick with Image & Partition Creator (& BIOS manager)
- Operating system-independent application by starting from own execution environment.

Benefits

Hard disk partitions can be modified without the need for reinstallation

SIMATIC PC Partition Creator facilitates modification of hard disk partitions to suit changed requirements without the need for reinstallation. The existing installation remains executable.

Appliaction

SIMATIC PC Partition Creator is used for modifying the pre-set hard disk partitioning to suit new requirements.

Function

Basic functionality

- Partition Creator can be started directly from the CD with its full scope of functions, without the need for installation on the IPC.
- The CD can also be booted from an external USB CD/DVD drive (if supported by the device)
- If no CD/DVD drive is available, boot diskettes or a bootable USB FlashDrive (if supported by the device) can be set up as alternative execution media.
- Partition Creator is based on Symantec Partition Magic 8.0

SIMATIC PC Partition Creator provides the following functions for modifying hard disk partitions:

- Enlarge or reduce existing system and data partitions without any loss of data
- Set up new partitions or delete existing ones
- Simple setup of multiple-boot systems. Installation of a boot manager

Special product features

- Creation of a Partition Creator Stick
  When menu-driven, a USB FlashDrive can be set up as an execution medium for Partition Creator. If BIOS Manager is installed on the USB FlashDrive, it is integrated into the operating menu.
- Creation of a Tools Stick
  Partition Creator can be added onto a USB FlashDrive with BIOS Manager and/or Image Creator. After booting the USB FlashDrive, you can then call Image Creator or Partition Creator or BIOS-Manager from a selection menu.
- Menu-driven generation of a Windows boot menu entry for the USB FlashDrive makes the migration of the booting sequence in favor of the USB FlashDrive in the BIOS unnecessary..

System requirements:

Can run on a SIMATIC PC with Windows 2000/XP

Notes:

- The SIMATIC PC Partition Creator cannot be used on systems with Windows Server operating systems!
- The SIMATIC PC Partition Creator cannot be used on systems with Windows Vista operating systems!

Ordering data

SIMATIC PC Partition Creator V2.1 Software tools for hard disk partitioning for SIMATIC PCs, incl. manual on CD-ROM (German, English, French, Italian and Spanish)	**6ES7 648-6AA02-1YX0**

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Overview

With ADDM, you are completely in control of the SIMATIC and SINUMERIK controls – around the clock and with any program version. This tool is indispensable in a modern production area and ensures user-friendly backup, comparison and management of control data.

Benefits

- Absolute clarity in data management
  With ADDM, everything executes on a uniform user interface - all types and formats of CNC, PLC and configuration data right through to system software. The tool offers you unambiguous access authorizations and intuitive handling. The directory structure is always in line with the physical production layout, even complex systems can be understood at a glance.
- Secure and flexible management of distributed control concepts
  ADDM can be flexibly used for every client/server and online storage system as well as for stand-alone machines. This means: Central data storage with maximum fault tolerance and availability as well as efficient archiving of all machine data. Thus: Fast feedback of the required version, if required. Checked, controlled, and documented archiving when several persons are working in parallel.
- Minimize downtimes
  You can rely on ADDM every time. Even when control components have to be replaced, for example. ADDM makes all the data available again immediately. With one click, without time-consuming reparameterization and configuration, whether for individual programs or complete hard disk partitions, you will have the right data in the right place.

Function

Controls fully mastered - across all program versions

Backup can be time-driven, fully-automatic or manual. The data are available at all times and can be used for fast, simple disaster recovery in the event of a fault.

System-active checking

If, for example, data changes become obvious in an online-offline comparison, automatic backup can take place and/or the change can be notified by e-mail.

Hot version backups

The required version can be called up immediately from up to 99 backups (regardless of archive versions).

Total transparency and overview

The practice-oriented structure is ideal not only for highly-complex control systems but also for non-networked single machines – with a uniform user interface for all data types and formats. Checked, controlled and documented archiving when several persons are working in parallel.

Function (continued)

Totally Integrated Automation (TIA)

ADDM has a unique way of managing your data uniformly in production.

Optimum availability

Reliable backup of all system and configuring data, including documentation and circuit diagrams, can be carried out manually or automatically with time control – for made-to-measure distributed control concepts.

Easy to handle

No programming knowledge required – so no need for special training courses. With the use of communication modules, data can also be exchanged conveniently with controls via the MPI/PROFIBUS interface on TCP/IP.

Contiguous archiving

The machine data are fully versioned and archived and can be copied back at any time. This also includes the documentation.

Operator-free data backup using the ADDM Agent

Data backup of SINUMERIK controls can be time-driven or manual, without installing a user interface, using the ADDM Agent. The backup, load and compare functions can be performed remotely using the ADDM Client.

Ordering data

		Order No.
ADDM software package Languages: English, German		
ADDM Single User		
• Single license with CD-ROM of current software version	Z	**6BQ3 030-1AA30-3AC0**
• Trial license with CD-ROM of current software version	B	**6BQ3 030-1AA70-3AC0**
• Single user upgrade	Z	**6BQ3030-1AB13-3AC0**
ADDM Client		
• Single license without data carrier	Z	**6BQ3 030-1AA20-1AC0**
• Single license with CD-ROM of current software version	Z	**6BQ3 030-1AA10-0AC0**
• Client upgrade from V5.x to V6.1 with CD-ROM	Z	**6BQ3 030-1AB11-3AC0**
ADDM Server		
• Single license with CD-ROM of current software version	Z	**6BQ3 030-1AA00-3AC0**
• Server upgrade from V5.x to V6.1 with CD-ROM	Z	**6BQ3030-1AB10-3AC0**
ADDM Agent		
• Single license without data carrier	Z	**6BQ3030-1AA00-1AB0**
• Single license with CD-ROM of current software version	Z	**6BQ3030-4AA00-0AC0**
• Agent upgrade from V1.x to V1.2 with CD-ROM	Z	**6BQ3030-1AB12-3AC0**

B) Subject to export regulations: AL: N and ECCN: EAR99S
Z) Subject to export regulations: AL: N and ECCN: 5D992

More information

Additional information is available in the Internet under:
http://www.siemens.com/addm

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SIMATIC PC CompactFlash

Overview

Rugged systems are required when using PCs in industrial environments to ensure minimal production standstill times. SIMATIC PCs are especially designed for this purpose. One possibility for enhancing the industrial compatibility and system availability of the SIMATIC PC is to use SIMATIC PC CompactFlash instead of hard disk drives. These have been system-tested with the respective SIMATIC PC.

SIMATIC PC CompactFlash can be ordered as a hardware option through SIMATIC PC Configurator or as an accessory. Depending on the application, cards are available with a storage capacity from 256 MB.

Benefits

Reduced costs through high industrial functionality

- High system availability because no mechanical parts subject to wear are used
- High degree of industrial compatibility because highly resistant to vibration/shock and high temperatures
- Minimization of outlay at customer through qualification and system test by SIMATIC PC
- Integrating the CompactFlash diagnosis allows another increase in system availability

Ordering data

		Order No.
SIMATIC PC CompactFlash with diagnosis		
• 256 MB	A	**6ES7 648-2BF02-0XC0**
• 512 MB	A	**6ES7 648-2BF01-0XD0**
• 1 GB	A	**6ES7 648-2BF01-0XE0**
• 2 GB	A	**6ES7 648-2BF02-0XF0**
• 4 GB	A	**6ES7648-2BF02-0XG0**
• 8 GB	A	**6ES7648-2BF02-0XH0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

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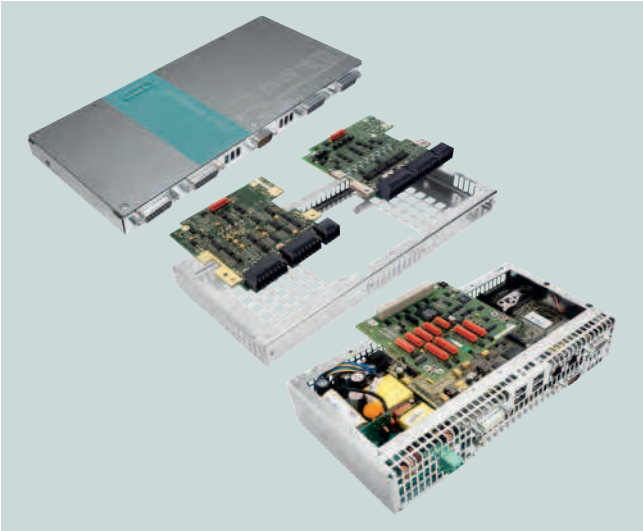
Overview



The PC IO central I/O expansion is a signal input/output module for the SIMATIC Microbox PC 427B. The I/O mounted into the PC facilitates particularly fast and realtime-capable measuring, e. g. with a response time to a digital or analog input within 100 µsec, for example with pick-and-place machines, robot controls and filling systems.
This combination offers a powerful control solution to machine, system and control cabinet manufacturers providing maximum compactness, high efficiency and flexibility and minimized costs.

The PC IO is equipped with all drivers for application in C/C++-based automation solutions with the realtime operating system RMOS3 as well as applications based on Windows XP Embedded and XP Professional, e.g. WinAC RTX.

A selection guide with a list of materials for your requirements can be found under:

http://www.siemens.com/simatic-pc/pc-io-selection

PC IO components

PC IO is application-specifically assembled from the base module(s), expansion frame and I/O modules. In maximum configuration, up to 8 I/O modules can be connected.

Module	Description
PC IO Base 400 (base module)	• Interfaces for sensor and counter connections Number 4 Input signal of sensor RS 422 Counting depth 32 bit • Interfaces for digital inputs Number 4 Input voltage 24 V DC Time-constant input filter 0.01 sec
PC IO MOD Digital 010 (digital I/O module 0)	• Digital inputs Number 24 Input voltage 24 V DC Time-constant input filter 1 msec, 0.1 msec, 0.01 msec Electrical isolation Yes • Digital outputs Number 16, organized in 4 output groups Output voltage 24 V DC Output current per output group 1 A max. Switching frequency < 2 kHz Switching type p-switching Electrical isolation Yes
PC IO MOD Analog 020 (analog I/O module 0)	• Analog inputs Number 8, single-ended Voltage ranges 0 … 5 V / 10 V, ± 5 V / 10 V Resolution 12 bit (incl. sign) Conversion time max. 50-200 µs per channel, depending on conversion type • PT 100 inputs Number 4 Type Two-wire measuring • Analog outputs Number 8, single-ended Voltage range ± 10 V Resolution 16 bit (incl. sign) Conversion time max.100-200 µs per channel, depending on conversion type
PC IO KIT 040 (encoder expansion rack)	For expanding a SIMATIC Microbox PC 420/427B. Connection unit for: • 4 encoder inputs • 4 digital inputs • Encoder voltage supply
PC IO KIT 030 (I/O expansion rack)	For expanding a SIMATIC Microbox PC 420/427B. Expansion rack to hold • max. 2 I/O modules in the Microbox PC 42x system

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PC I/O modules

Benefits

Reduction in standstill times thanks to high system availability

- Monitoring and diagnostic functions (watchdog, heart beat, short-circuit monitoring, temperature monitoring, broken cable)
- Maintenance-free operation because a fan is not necessary
- Service-friendly hardware configuration (easy expansion, direct plug-in system for easy installation)
- High interference immunity (isolated digital I/Os)

Cost reductions through high investment security

- High product continuity through long-term secure functionality in hardware and software
- Modules developed and manufactured by Siemens
- Guaranteed spare-parts availability of the components (5 years)

Reduced costs through high industrial functionality

- High degree of industrial compatibility thanks to rugged construction (solid metal expansion rack, Base 400 permanently screwed to I/O modules) even under extreme vibration and shock loading, at high temperatures and with high electromagnetic interference
- High degree of flexibility in the selection and expansion of components (inputs and outputs are scalable in terms of type and number)
- Compact, resource-saving construction (four I/O modules or up to 160 24 V IOs can be operated on one PCI load)
- Support is available for different operating systems, such as RMOS3, Windows XP Professional, Windows XP embedded
- High performance for fast signal processing in real-time applications

Cost minimization through time savings

- Fully assembled, turn-key systems
- Program examples for support with creating applications
- Quick assembly due to integrated terminals with direct plug-in connection system

Ordering data

		Order No.
PC IO Base 400 PCI-104 module for connecting up to 4 PC IO MOD xxx 010/020, with 4 encoder interfaces and 4 DI incl. fixing accessories (base module with fixing accessories)	A	**6ES7 648-2CE20-0AA0**
PC IO MOD Digital 010 Digital I/O module with 24DI and 16DO, incl. connecting cable to PC IO Base 400 and mating connector		**6ES7 648-2CE40-0AA0**
PC IO MOD Analog 020 Analog I/O module with 8AI, 8AO and 4 PT100, incl. connecting cable to PC IO Base 400, mating connector and shield clamp	A	**6ES7 648-2CE40-0CA0**
PC IO KIT 030 I/O module expansion rack for Microbox PC 420/427B for installing up to 2 I/O modules, including fixing accessories and a cover plate		**6ES7 648-1AA20-0XF0**
PC IO KIT 040 Encoder expansion rack for Microbox PC 420/427B for contacting the encoder interfaces and DIs of the PC IO Base 400, incl. fixing accessories		**6ES7 648-1AA20-0XE0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

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Overview

The Remote Kit makes it possible to separate the Panel PC 677/677B operator control unit from the computer unit and install them up to 30 m apart.

Benefits

- Maintaining the Panel PC front functionality
  - Status LEDs (temperature/power)
  - LEDs on the keys, Piezo mouse
  - USB 2.0 on front (up to 5 m), USB 1.1 (up to 30 m)
  - Dimmable backlit display
  - Programmable keyboard controller
  - Direct control key module option available and mountable
- Makes an ultra-compact operator control unit possible
- Suitable for subsequent modification/upgrade by the customer
- Applicable for all SIMATIC Panel PCs 677 and 677B
- Pure hardware solution and, therefore, independent of the operating system
- Remote front with the option of AC or DC power supply
- Operator control unit can be located up to 30 m away from the computer unit

Design

The Remote Kit consists of the following components:

- Remote module (mounted on the rear of the operator control unit)
- Video connecting cable (industrial grade DVI-D cable)
- USB connecting cable (up to 5 m with a standard USB cable; at 5 m and longer, the USB signal is transmitted via a CAT6 cable with external amplification)
- Mechanical components (for mounting the computer unit inside a control cabinet, console or machine)

Ordering data

		Order No.
SIMATIC Panel PC Remote Kit		
• 24V DC, 5 m	A	**6AV7 671-1EA00-5AA1**
• 24V DC, 10 m	A	**6AV7 671-1EA01-0AA1**
• 24V DC, 15 m	A	**6AV7 671-1EA01-5AA1**
• 24V DC, 20 m	A	**6AV7 671-1EA02-0AA1**
• 24V DC, 30 m	A	**6AV7 671-1EA03-0AA1**
• 100/240 V AC, 5 m	A	**6AV7 671-1EA10-5AA1**
• 100/240 V AC, 10 m	A	**6AV7 671-1EA11-0AA1**
• 100/240 V AC, 15 m	A	**6AV7 671-1EA11-5AA1**
• 100/240 V AC, 20 m	A	**6AV7 671-1EA12-0AA1**
• 100/240 V AC, 30 m	A	**6AV7 671-1EA13-0AA1**
Accessories		
Power supply cable		
• Europe: D/F/NL/E/B/A/S/FIN [1]		**6ES7 900-1AA00-0XA0**
• United Kingdom		**6ES7 900-1BA00-0XA0**
• Switzerland		**6ES7 900-1CA00-0XA0**
• USA		**6ES7 900-1DA00-0XA0**
• Italy		**6ES7 900-1EA00-0XA0**
• China		**6ES7 900-1FA00-0XA0**
Sub-components of the Remote Kit		
(only available individually as spare parts)		
• 24 V DC remote module with fixing accessories	A	**6AV7 671-1EX01-0AD0**
• 110 … 240 V AC remote module with fixing accessories		**6AV7 671-1EX01-0BD0**
• USB amplifier/CAT6 converter		**6AV7 671-1EX02-0AB0**
• 5 m cable set (DVI, USB standard cable)		**6AV7 671-1EX10-5AA0**
• 10 m cable set (DVI, Cat 6 cable)		**6AV7 671-1EX11-0AA0**
• 15 m cable set (DVI, Cat 6 cable)	A	**6AV7 671-1EX11-5AA0**
• 20 m cable set (DVI, Cat 6 cable)		**6AV7 671-1EX12-0AA0**
• 30 m cable set (DVI, Cat 6 cable)		**6AV7 671-1EX13-0AA0**

A) Subject to export regulations: AL: N and ECCN: EAR99H

1) A European power supply cable is included in the scope of delivery of the AC (100 … 240 V) version of the Remote Kit.

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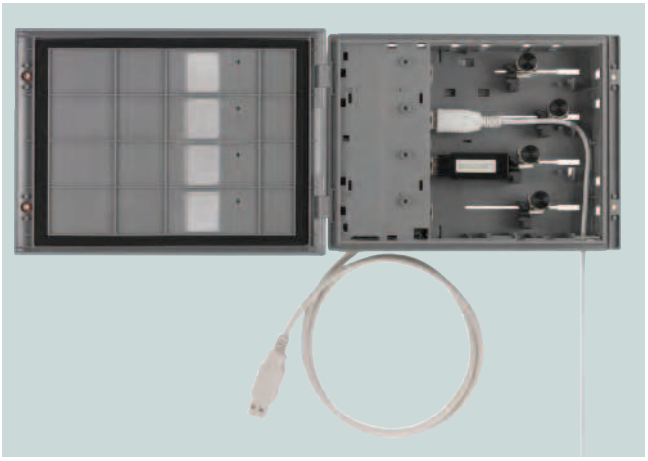
Industrial USB Hub 4

Overview



Industrial USB Hub 4, open

- The Industrial USB Hub 4 is used as a USB hub for the connection of peripheral devices to Multi Panels, Panel PCs and standard PCs.
- The industrial USB Hub 4 with IP65 degree of protection on the front (Service Kit required) can be mounted in a control cabinet. This simplifies the use of USB peripherals in harsh industrial environments.
- USB peripherals can be connected to the panel and operated via the Industrial USB Hub 4 without opening the cabinet door. The ports are also accessible from the rear even in the control cabinet.

Design

Use of the Industrial USB Hub 4

- permits the simultaneous connection of as many as four peripheral devices such as USB stick, mouse, keyboard, printer or barcode reader to the panel.
- increases the availability of the system to be operated. The cabinet door no longer has to be opened in order to connect to the peripherals. The unit can be operated from the Panel PC and the Multi Panel without interruption.

In addition, the Industrial USB Hub4 has the following features:

- Inspection window for each interface
- Vibration-proof restraint of connected USB cables and USB sticks
- One LED per interface for checking the data traffic
- Sufficient interior space for easy insertion and removal of connections
- Facility for attachment to a DIN rail

Integration

The Industrial USB Hub 4 is suitable for connection to:

- MP 277/ MP 377
- SIMATIC Panel PC

Recommended operating systems:

Windows 2000/XP/XP embedded

Ordering data

		Order No.
Industrial USB Hub 4	A	**6AV6 671-3AH00-0AX0**
Service pack for Industrial USB Hub 4		see HMI Accessories Service packages

A) Subject to export regulations: AL: N and ECCN: EAR99H

More information

Note for SIMATIC Panel PCs

The Industrial USB Hub 4 is approved for the Windows 2000/XP operating systems. The appropriate drivers are supplied with the operating system software.

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Overview

By combining a SITOP power supply unit with a DC UPS module and with at least one 24 V battery module or a maintenance-free SITOP UPS500S (optionally with extension module), longer power failures can be bridged without any interruption.

This combination is used, for example, in machine tool manufacture, the textile industry, all types of production lines and filling systems, and in conjunction with 24 V industrial PCs. This prevents the negative effects which often result from power failures.

For SIMATIC PC this implies a failsafe shut down of all current applications, as well of the operating system.

For “NON-STOP” use in the event of power failures, Siemens offers the following uninterruptible power supplies:

- DC UPS 6 A
- DC UPS 15 A
- DC UPS 40 A

and the following battery modules:

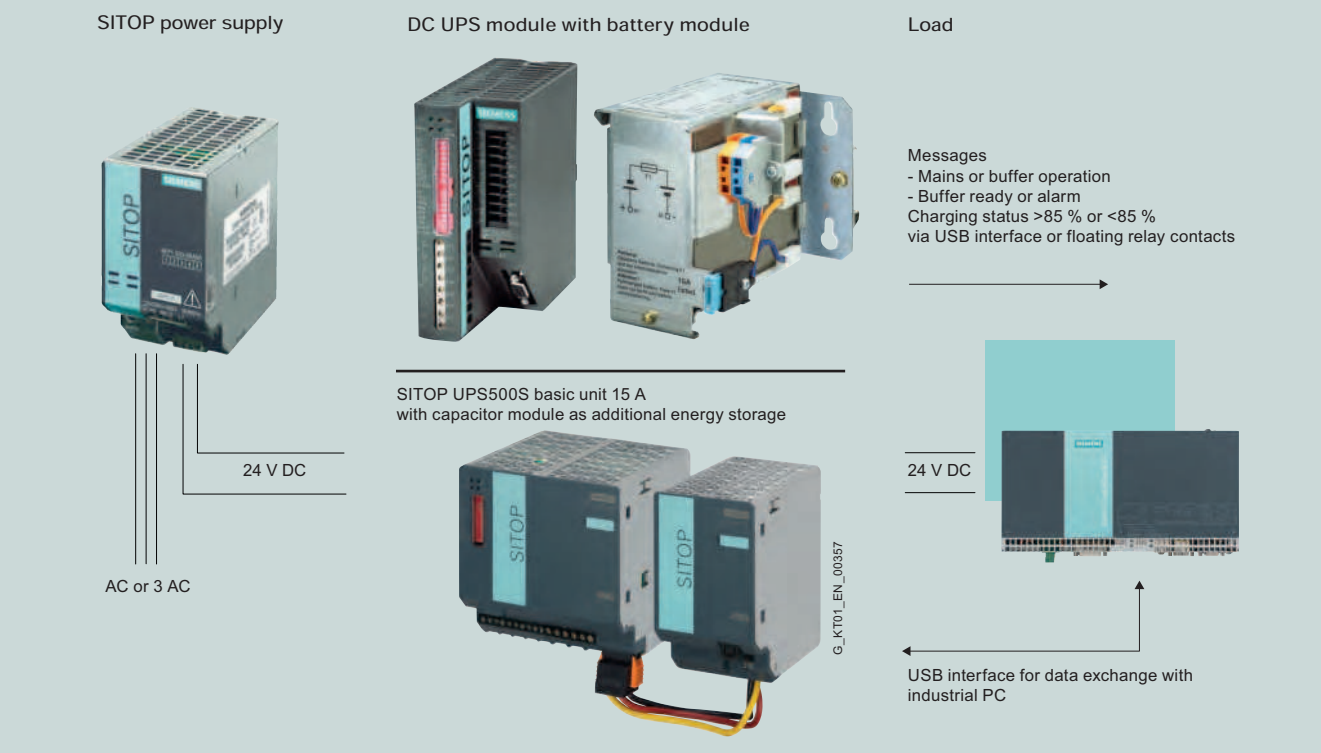
- 1.2 Ah (contains lead-acid batteries with corrosion-resistant lead-calcium, high-capacity grid plates and fiberglass mat)
- 3.2 Ah (contains lead-acid batteries with corrosion-resistant lead-calcium, high-capacity grid plates and fiberglass mat)
- 7 Ah (contains lead-acid batteries with corrosion-resistant lead-calcium, high-capacity grid plates and fiberglass mat)
- 12 Ah (contains lead-acid batteries with corrosion-resistant lead-calcium, high-capacity grid plates and fiberglass mat)
- 2.5 Ah (contains “high-temperature battery” lead-acid type)

The maintanance-free DC UPS modules with capacitors as energy storage are particularly suitable for operation in high ambient tamperatures:

- SITOP UPS500S (DC UPS basic unit 15 A 2.5 kWs)
- SITOP UPS500S (DC UPS basic unit 15 A 5 kWs)

Optionally for increasing the buffer time:

- SITOP UPS501S (capacitor module 5 kWs)


SITOP power supply
DC UPS module with battery module
Load
SITOP
Messages
- Mains or buffer operation
- Buffer ready or alarm
Charging status >85 % or <85 %
via USB interface or floating relay contacts
SITOP UPS500S basic unit 15 A
with capacitor module as additional energy storage
24 V DC
24 V DC
AC or 3 AC
G_KT01_EN_00357
USB interface for data exchange with
industrial PC

Ordering data

	Order No.
Examples for SITOP power supplies:	
SITOP modular 5 A Input 120/230 – 500 V AC Output 24 V / 5 A DC	**6EP1 333-3BA00**
SITOP modular 10 A Input 120/230 – 500 V AC Output 24 V / 10 A DC	**6EP1 334-3BA00**

	Order No.
Examples for SITOP power supplies:	
SITOP smart 5 A Input 120/230 V AC Output 24 V / 5 A DC	**6EP1 333-2BA01**
SITOP smart 10 A Input 120/230 V AC Output 24 V / 10 A DC	**6EP1 334-2BA01**

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Introduction

Overview

Selection table for battery modules and line-buffering times

Load current	Battery module 1.2 Ah (6EP1935-6MC01)	Battery module 3.2 Ah (6EP1935-6MD11)	Battery module 7Ah (6EP1935-6ME21)	Battery module 12 Ah (6EP1935-6MF01)	Battery module 2.5 Ah (6EP1935-6MD31)
1 A	30 min	2.5 h	6 h	11 h	2 h
2 A	11 min	45 min	2.5 h	5 h	45 min
3 A	4 min	25 min	1.5 h	3 h	30 min
4 A	2 min	20 min	45 min	2 h	20 min
6 A	1 min	10 min	30 min	1 h	13 min
8 A	–	4 min	20 min	40 min	9 min
10 A	–	1.5 min	15 min	30 min	7 min
12 A	–	1 min	10 min	25 min	5.5 min
14 A	–	50 s	8 min	20 min	4.5 min
16 A	–	40 s	6 min	15 min	4 min
20 A	–	–	2 min	11 min	–

Important information for selecting the battery capacity:

- On determining the mains buffering times the duration of discharge was based on a non-aged and fully charged battery module with an accumulator temperature of not less than +25 °C up to a dip in the battery voltage to 21 V;
- As a result of aging of the accumulators, the available accumulator capacity is reduced throughout the life of the battery to approx. 50% of the original capacity;
- To achieve the longest possible service life of the accumulators, the battery modules should be stored for only very short periods, always fully charged and in the temperature range 0 to +20 °C;
- In the case of the DC UPS module 40 A, at least 2 battery modules with a minimum of 7 Ah must be switched in parallel. It is important to ensure here that the accumulators are of the same capacity and age.
- For important configuration notes see Catalog KT 10.1.

Selection table SITOP UPS500S (optionally with capacitor module) and line-buffering times

Load current	SITOP UPS500S (DC UPS basic unit 15 A 2.5 kWs) 6EP1933-2EC41	SITOP UPS500S (DC UPS basic unit 15 A 5 kWs) 6EP1933-2EC51	SITOP UPS500S (DC UPS basic unit 15 A 2.5 kWs) with SITOP UPS501S (capacitor module 5 kWs) 6EP1935-5PG01	SITOP UPS500S (DC UPS basic unit 15 A, 5 kWs) with SITOP UPS501S (capacitor module 5 kWs) 6EP1935-5PG01
0.2 A	217 s	395 s		
0.5 A	134 s	236 s	390 s	478 s
0.8 A	90 s	167 s	266 s	346 s
1 A	110 s	205 s	311 s	425 s
2 A	54 s	120 s	158 s	223 s
3 A	26 s	52 s	82 s	106 s
4 A	19 s	39 s	61 s	81 s
5 A	15 s	31 s	49 s	65 s
6 A	12 s	26 s	40 s	55 s
8 A	8 s	18 s	29 s	40 s
10 A	6 s	15 s	23 s	32 s
12 A	4 s	12 s	19 s	26 s
15 A	3 s	9 s	14 s	20 s

Important information for selecting the energy storage:

The mains buffering times are based on the discharge period of new or non-aged, fully charged capacitors. In case of enduring ambient temperature of + 50 °C we must reckon with a loss of capacity of ca. 20 % after a service life of 8 years.

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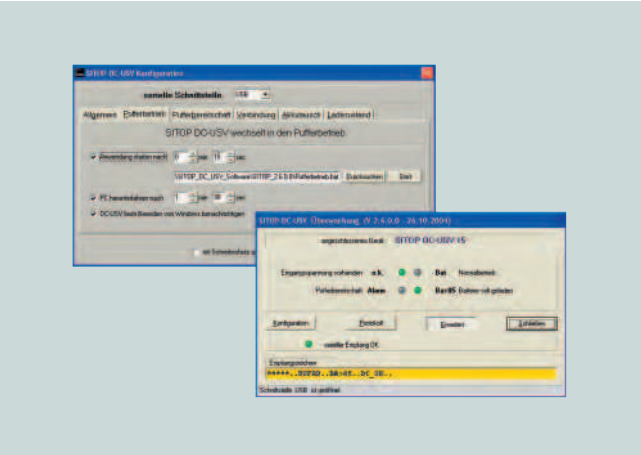
Overview



Monitoring and configuration windows of the SITOP UPS software

DC UPS software

The DC UPS modules are optionally available with a USB port or a serial port. All relevant messages about the status of the DC UPS can be transferred to a PC (e.g. SIMATIC PC) via this interface.

SITOP DC UPS software provides the user with a software tool that is extremely easy to operate and can be used to further process the signals sent from the DC-UPS module on the PC. In monitoring mode, the status of the DC-UPS module is visualized on the PC. Safe shutdown in the event of a power failure and automatic PC restart are supported. It is also possible to freely define responses to the different operating states of the DC UPS module, permitting extremely flexible integration into a wide variety of applications. The SITOP DC UPS software can be installed either as application or as service. When using it as application an OPC server interface is available in addition to the data exchange.

The software executes under the Windows Vista, Windows 2000 and Windows XP operating systems. It is available as freeware on the SITOP Internet site for free downloading.

Additional information is available in the Internet under:

www.siemens.com/sitop-ups

Overview

DC UPS module

DC UPS modules 6A/15A/40A

- Compact design, only 50 mm wide (6 A/15 A) and 102 mm (40 A)
- Simple DIN rail mounting
- Absolutely interruption-free buffering of mains failures through immediately electronic connection of the batteries as soon as the DC UPS input voltage drops below the value set using DIP switches
- High safety and availability through monitoring of operational readiness, battery supply line, battery aging (message "Battery replacement necessary") and battery charge (message "Battery charge >85%")
- Support of automatic restart of industrial PCs through selectable switch-off response
- Optionally with serial (6 A/15 A only) or USB interface

Ordering data	Order No.
DC UPS module 6 A	**6EP1 931-2DC21**
• with serial interface	**6EP1 931-2DC31**
• with USB interface	**6EP1 931-2DC42**
DC UPS module 15 A	**6EP1 931-2EC21**
• with serial interface	**6EP1 931-2EC31**
• with USB interface	**6EP1 931-2EC42**
DC UPS module 40 A	**6EP1 931-2FC21**
• with USB interface	**6EP1 931-2FC42**

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SITOP battery modules

Overview

Battery module 1.2 Ah

- Battery module for DC UPS module 6 A
- Contains two maintenance-free, sealed lead-acid batteries from the same batch fitted in a holder and connected in series
- Completely prewired with battery fuse holder and terminals
- Low self-discharge rate of approx. 3 % per month (at +20 °C)
- Recommended charging current: max. 0.3 A
- Recommended end-of-charge voltage at 25 °C battery temperature: 27.0 V DC
- Dimensions (W x H x D): approx. 96 mm x 106 mm x 108 mm
- Weight: approx. 2 kg
- Snap-mounting on 35 mm standard rails (DIN EN 50022-35x15/7.5) or keyhole mounting for hooking onto M4 screws

Battery module 2.5 Ah

- High-temperature battery for DC UPS module 6 A and 15 A
- Contains two maintenance-free, sealed chemical lead-acid batteries from the same batch fitted in a holder and connected in series
- Completely prewired with battery fuse holder and terminals
- Low self-discharge rate of approx. 3 % per month (at +20 °C)
- Recommended charging current: max. 5 A
- Recommended end-of-charge voltage at 25 °C battery temperature: 27.7 V DC
- Dimensions (W x H x D): approx. 265 mm x 151 mm x 91 mm
- Weight: approx. 3.8 kg
- Snap-mounting on 35 mm standard rails (DIN EN 50022-35x15/7.5) or keyhole mounting for hooking onto M4 screws

Battery module 3.2 Ah

- Battery module for DC UPS module 6 A and 15 A
- Contains two maintenance-free, sealed lead-acid batteries from the same batch fitted in a holder and connected in series
- Includes battery fuse holder and terminals
- Low self-discharge rate of approx. 3 % per month (at +20 °C)
- Recommended charging current: max. 0.8 A
- Recommended end-of-charge voltage at 25 °C battery temperature: 27.0 V DC
- Dimensions (W x H x D): approx. 190 mm x 151 mm x 82 mm
- Weight: approx. 3.2 kg
- Snap-mounting on 35 mm standard rails (DIN EN 50022-35x15/7.5) or keyhole mounting for hooking onto M4 screws

Battery module 7 Ah

- Battery for DC UPS module 6 A, 15 A and 40 A
- Contains two maintenance-free, sealed lead-acid batteries from the same batch fitted in a holder and connected in series
- Completely prewired with battery fuse holder and terminals
- Accessory pack with FK2 spare fuses 15 A and 20 A
- Low self-discharge rate of approx. 3 % per month (at +20 °C)
- Recommended charging current: max. 1.75 A
- Recommended end-of-charge voltage at 25 °C battery temperature: 27.0 V DC
- Dimensions (W x H x D): approx. 186 mm x 168 mm x 121 mm
- Weight: approx. 6.0 kg
- Can be screwed onto flat surface (Keyhole mounting for hooking onto M4 screws)

Battery module 12 Ah

- Battery for DC UPS module 6 A, 15 A and 40 A
- Contains two maintenance-free, sealed lead-acid batteries from the same batch fitted in a holder and connected in series
- Completely prewired with battery fuse holder and terminals
- Accessory pack with FK2 spare fuses 15 A and 20 A
- Low self-discharge rate of approx. 3 % per month (at +20 °C)
- Recommended charging current: max. 3 A
- Recommended end-of-charge voltage at 25 °C battery temperature: 27.0 V DC
- Dimensions (W x H x D): approx. 253 mm x 168 mm x 121 mm
- Weight: approx. 9 kg
- Can be screwed onto flat surface (Keyhole mounting for hooking onto M4 screws)

Ordering data

		Order No.
SITOP Battery module 24 V/1.2 Ah for DC UPS module 6 A	A	**6EP1 935-6MC01**
SITOP Battery module 24 V/2.5 Ah for DC UPS module 15 A		**6EP1 935-6MD31**
SITOP Battery module 24 V/3.2 Ah for DC UPS module 15 A		**6EP1 935-6MD11**
SITOP Battery module 24 V/7 Ah for DC UPS modules 15 A and 40 A		**6EP1 935-6ME21**
SITOP Battery module 24 V/12 Ah for DC UPS modules 15 A and 40 A		**6EP1 935-6MF01**

A) Subject to export regulations: AL: N and ECCN: EAR99H

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Overview

Basic unit SITOP UPS500S

- Compact design, only 120 mm wide
- Two versions with integrated energy storage units: 2.5 KW or 5 KW
- Can be expanded easily using a user-friendly plug-in system with the capacitor module (5 KW)
- Completely uninterruptible mains buffering through immediate electronic connection of the integral capacitors as soon as the DC UPS input voltage falls below the value set by means of DIP switches
- High level of safety and availability through monitoring of operational readiness, and monitoring of the capacitor charge (message "> 85% charged")
- Support for automatic warm restart of industrial PCs through selectable shutdown characteristics
- With USB interface
- Can be snapped onto standard mounting rail EN 60715 35X7.5/15
- Dimensions (W x H x D) in mm: approx. 120 x 125 x 125
- Weight: approx. 1 kg

Expansion module SITOP UPS501S

- Additional energy storage (5 KW)
- Up to 3 capacitor modules can be connected to a SITOP UPS500S for extending the backup times
- Compact design, only 70 mm wide
- Can be easily connected to SITOP UPS500S using user-friendly plug-in system
- Complete with balancing and safety circuits
- Can be snapped onto DIN rail EN 60715 35x7.5/15
- Dimensions (W x H x D) in mm: approx. 70 x 125 x 125
- Weight: approx. 0.7 kg

Ordering data

	Order No.
SITOP UPS500S	
Basic unit with 2.5 kWs onboard	**6EP1 933-2EC41**
Basic unit with 5 kWs onboard	**6EP1 933-2EC51**
SITOP UPS501S	
capacitor module 5 kWs	**6EP1 935-5PG01**

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MASTERGUARD

Overview

MASTERGUARD UPS

- The MASTERGUARD A-19 and EI-19 offer effective online protection against all types of network interferences
- True online functional principle, i.e. complete decoupling of load from the irregularities of the power supply
- 19" compact modules
- Simple operation as well as functional display of mode and load status

MASTERGUARD USV series A-19/EI-19

- Permanent dual converter technology corrects any irregularities on the network and provides absolute protection against interruptions
- Easy to configure for 19" cabinets thanks to battery expansions and universal sliding inserts
- If space is at a premium, the A-19 series can be supplied with a mounting height of just 2 HU or the EI-19 series with only 3 HU, load-regulated fans and functional display
- A serial interface or USB interface can be selected for communication and the UPS network interface can also be implemented using the SNMP expansion card for the communication slot

Ordering data

Standard configuration

UPS MASTERGUARD A-19 series

- **A700-19**
  Output: 700 VA; Integrated battery: 6 min
- **A1000-19**
  Output: 1000 VA; Integrated battery: 7 min.
- **A2000-19**
  Output: 2000 VA
- **A3000-19**
  Output: 3000 VA

MASTERGUARD battery pack A-19 series

- **BPA 1000-19**
  for UPS A1000-19 (max. 2 BP)
- **BPA 3000-19**
  for UPS A2000-19 (max. 5 BP)
  and UPS A3000-19 (max. 5 BP)

Accessories

Sliding insert 2 HE 330-580 mm

Sliding insert 2 HE 575-855 mm

Standard configuration

UPS MASTERGUARD EI-19 series

- **EI-19**
  Output: 6000 VA

battery pack MASTERGUARD EI-19 series

- **BPEI-19**

Accessories

Sliding insert 3 HE 330-580 mm

Sliding insert 3 HE 575-855 mm

ManageUPS SNMP adapter card

MopUPS shutdown software

- for Intel operating systems (Windows, Linux, Solaris for Intel)
- for Risc operating systems (Solaris SPARC, HPUX, AIX)

More information

Additional information on MASTERGUARD UPS is available in the Internet under

http://www.masterguard.com

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